Learn Lojban

Lesson 1. The language at a glance

Alphabet

The basic thing you need to know about Lojban is the alphabet.

Lojban uses the Latin alphabet (vowels are colored):

a b c d e f g i j k l m n o p r s t u v x y z ' .

Words are pronounced as they are written.

There are 10 vowels in Lojban:

a	as in *father* (not as in *face*)
e	as in *get*
i	as in *machine* (not as in *hit*)
o	as in *choice*, *not* or *ough* in *thought* (not as in *so*, **o** should be a "pure" sound).
u	as in *cool* (not as in *but*)
y	as in *comma* (not as in *misty* or *cycle*)

4 vowels are written using combinations of letters:

au	as in *cow*
ai	as in *high*
ei	as in *weigh*
oi	as in *boy*

As for consonants, they are pronounced like in English or Latin, but there are several differences:

c	is pronounced as *c* in *ocean*, as *sh* in *shop*.
g	always *g* as in *gum* (never *g* as in *gem*).
j	like *s* in *pleasure* or *treasure*, like *j* in French *bonjour*.
x	like *ch* in Scottish *loch* or as in German *Bach*, like *J* in Spanish *Jose* or *Kh* in Modern Arabic *Khaled*. Try pronouncing *ksss* while keeping your tongue down and you get this sound.
'	like English *h*. So the apostrophe is regarded as a proper letter of Lojban and pronounced like a *h*. It can be found only between vowels. For example, **u'i** is pronounced as *oo-hee* (whereas **ui** is pronounced as *wee*).
.	a full stop (period, word break) is also regarded as a letter in Lojban. It's a short pause in speech to stop words running into each other. Actually any word starting with a vowel has a full stop placed in front of it. This helps prevent undesirable merging of two sequential words into one.
i	**i** before vowels is considered a consonant and pronounced shorter, for example: 🌼 **ia** is pronounced as *ya* in *yard* 🌼 **ie** is pronounced as *ye* in *yes*
u	**u** before vowels is considered a consonant and pronounced shorter, for example: 🌼 **ua** is pronounced as *wo* in *wow* 🌼 **ue** is pronounced as *whe* in *when*

Stress is placed on the second to last vowel. If a word has only one vowel, you just don't stress it.

The letter **r** can be pronounced like the the *r* in English, Scottish, Russian, so there is a range of acceptable pronunciation for it.

Non-Lojban vowels like the short *i* and *u* in Standard British English *hit* and *but*, are used by some people to separate consonants. So, if you have trouble pronouncing two consonants in a row (e.g. the **vl** in **tavla**, which means *to talk to*), then you can say *tavıla* — where the *ı* is very short. However, other vowels like **a** and **u** must be long.

The simplest sentence

The basic unit in Lojban is "sentence". Here are three simple examples:

> **le prenu cu tavla mi**
> *The person speaks to me.*

le prenu ≈ *the person*
tavla ≈ *… talks to …, … speaks to …*
mi ≈ *I, me*

> **mi prami do**
> *I love you.*

prami ≈ *… loves … (someone)*
do ≈ *you*

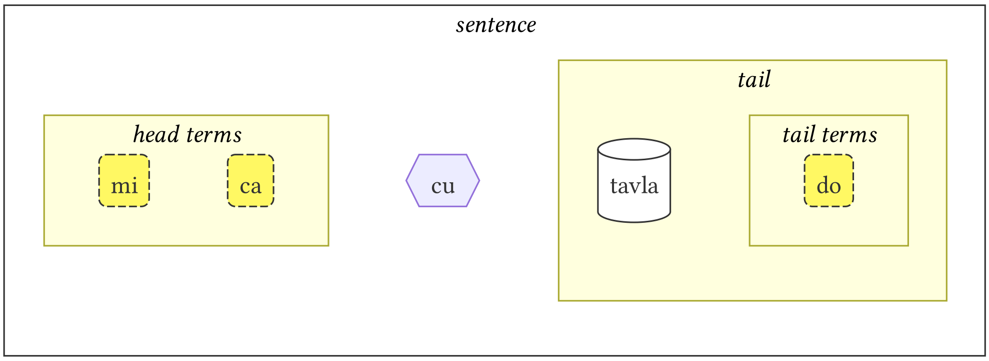
> **mi ca cu tavla do**
> *I now talk to you.*

ca ≈ *now (pronounced as **shah**)*

le prenu cu tavla mi
The person talks to me.

Each sentence in Lojban consists of the following parts from the left to the right:

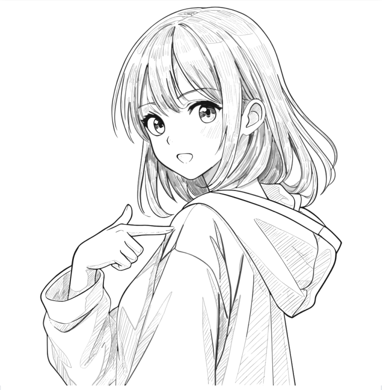
- the head:
  - consists of so-called "terms",
    - **le prenu** is the only head term in the example **le prenu cu tavla mi** above,
    - **mi**, **ca** are head terms in the example **mi ca cu tavla do** above.
- the head separator **cu**:
  - pronounced as *shoe* since **c** is for *sh*,
  - shows that the head has ended,
  - can be omitted when it's clear that the head is completed.
- the tail:
  - the main relation construct (called "**selbrisni**" in Lojban)
  - + possibly one or more terms after it,
    - **tavla**, **prami** are selbrisni, main relation constructs in the examples above.
    - **mi** is the only tail term in the example **le prenu cu tavla mi** above.
    - **do** is the only tail term in the example **mi prami do** above.



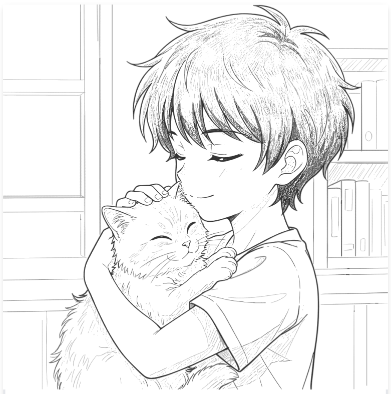
In Lojban, we mostly speak of relations rather than nouns or verbs.

Here are the two relation words, which roughly correspond to verbs:

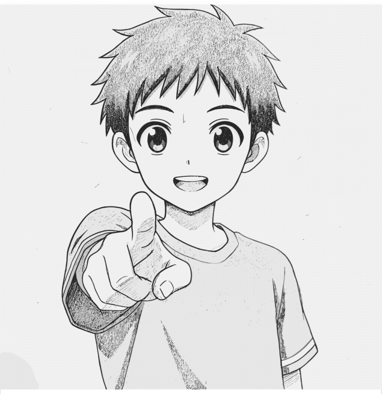
prenu ≈ *... is a person / are people*
tavla ≈ *... speaks to ...*



mi
I / me

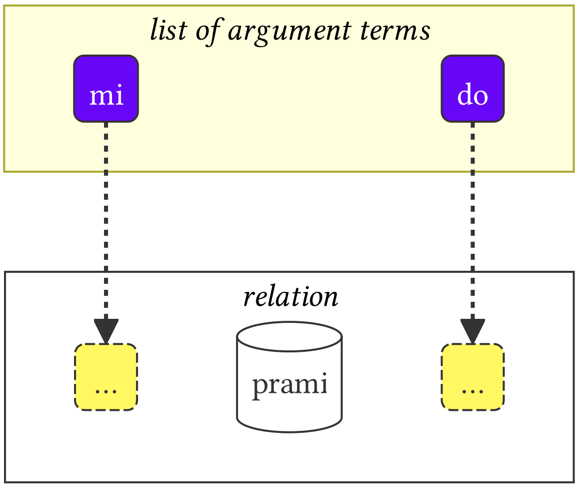


mi prami do
I love you.



do
you

Each relation has one or more roles that can also be called "slots" or "places". Above, they are labelled with "..." Those slots are to be filled with arguments (called "**sumti**" in Lojban). Argument terms are constructs like **le prenu**, **mi**, **do** no matter whether those terms end up being in a head or in a tail of a sentence. We put argument terms in order, thus filling these slots and giving a concrete meaning to the relation.



We can also turn such relation into an argument term.

For that we put a short word **le** in front of it:

> **prenu** ≈ *... is a person*
> **le prenu** ≈ *the person, the people*

Similarly,

> **tavla** ≈ *... speaks to ...*

and thus

> **le tavla** ≈ *the speaker, the speakers*

It might sound strange how *person* can be a "verb", but in fact, this makes Lojban very simple:

relation word with slots unfilled	argument form (sumti)
prenu — *... (someone) is a person*	**le prenu** — *the person / the people* **le prenu** — *the one who is a person / those who are people*
tavla — *... (someone) speaks to ... (someone)*	**le tavla** — *the speaker / the speakers* **le tavla** — *the one who is a speaker / those who are speakers*

The first slot of the relations disappears when using **le**, hence such alternative translations as *the one who ...* is possible.

Notice, that Lojban, by default, doesn't specify number between *the speaker* or *the speakers*. That is, **le tavla** is vague in that regard, and we will soon discover ways to define the number.

Apart from argument terms there are modal terms like **ca**:

> **mi ca cu tavla do**
> *I now talk to you.*

ca ≈ *now*

Modal terms do not fill slots of the main relation construct ("**selbrisni**"). Instead, they are applied to the whole sentence enriching or narrowing its meaning.

Thus, terms in Lojban are represented with:

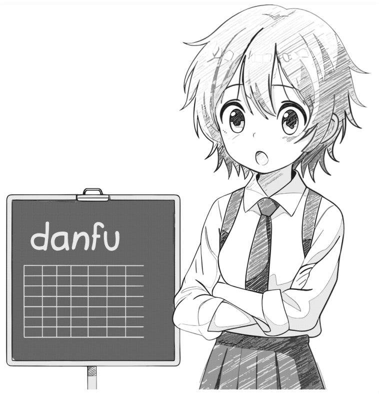
- argument terms that fill in slots of relations. Examples are:
    - nouns like **le prenu** (*the person*)
    - pronouns like **mi** (*I, me*), **do** (*you*). Pronouns work exactly as nouns, but **le** is not used for them. They work as arguments on their own.
- modal terms that do not fill slots of relations but specify additional, clarifying information.
    - for example, **ca** (*now, in present*).

Some more examples:

> **mi nintadni**
> *I am a new student.*

nintadni ≈ *... (someone) is a new student, a newbie*

Unlike in English we don't have to add the verb "am/is/are/to be" to the sentence. It is already implied. The relation word **nintadni** (*... is a new student*) already has this English "am/is/are/to be" built into its English translation.



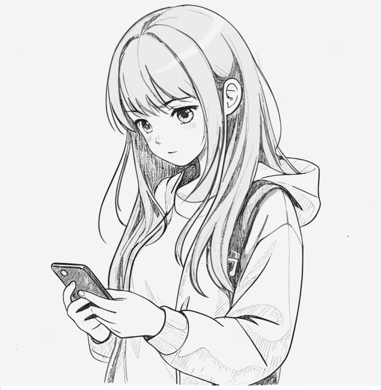
mi nintadni
I am a new student, a fresher.

> **do jimpe**
> *You understand.*

jimpe ≈ *... (someone) understands ... (something)*

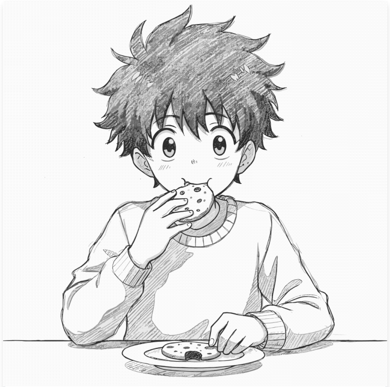
> **mi pilno le fonxa**
> *I use the phone.*

pilno ≈ *... (someone) uses ... (something)*
fonxa ≈ *... is a phone, ... are phones*
le fonxa ≈ *the phone, the phones*



le prenu cu pilno le fonxa
The person uses the phone.

> **mi citka**
> *I eat.*



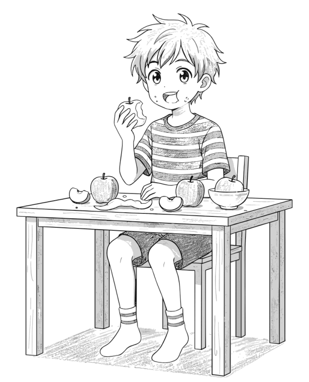
mi citka
I eat.

citka ≈ *… (someone) eats … (something)*

> **do citka**
> *You eat.*

> **mi citka le plise**
> *I eat the apples.*

> **le plise cu kukte**
> *The apples are tasty.*

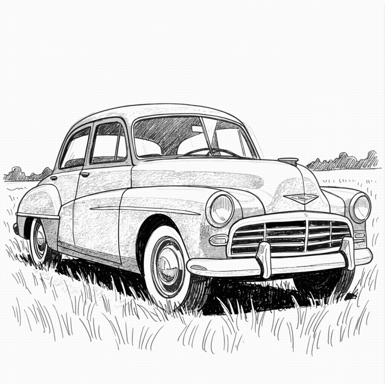


le plise cu kukte
The apples are tasty.

le plise ≈ *the apples*
kukte ≈ *… (something) is tasty*

A simpler sentence in Lojban would contain only one main relation word:

> **karce**
> *Car!*
> *It is a car.*



karce
It is a car.

You could say this when you see a car coming. Here the context would be clear enough that there is a car somewhere around and probably it's dangerous.

karce itself is a relation word meaning *is a car.*

We can of course be more precise and say, for example:

> **bolci**
> *Ball!*
> *It is a ball.*

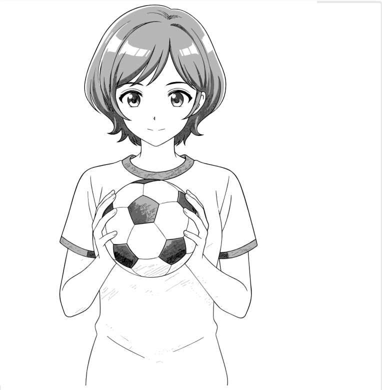
where **bolci** is a relation word meaning *is a ball.*

> **ti bolci**
> *This is a ball near me.*

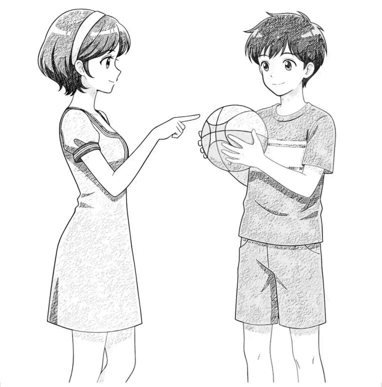
> **ta bolci**
> *This is a ball near you.*

ti ≈ *pronoun: this thing near me*
ta ≈ *pronoun: this/that thing near you*
tu ≈ *pronoun: that one away from you and me*

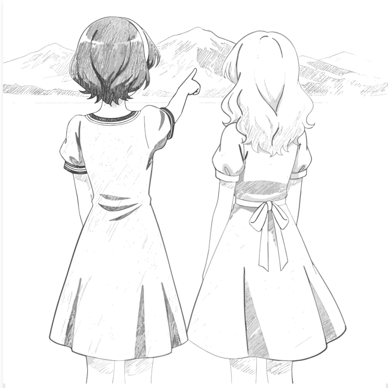
Similarly, you can say



ti
this one (near me, the speaker)



ta
this one (near you, the listener)

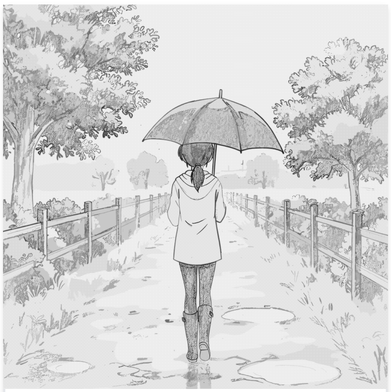


tu
that one over there (away from you and me)

> **carvi**
> *It is raining.*

where

carvi ≈ *... is a rain, ... is raining*



carvi
... is a rain

or

> **pluka**
> *It's pleasant.*

where

pluka ≈ *... is pleasant*

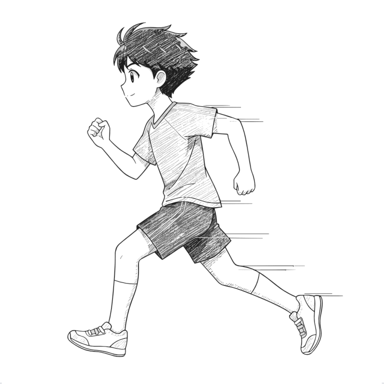
Notice that in Lojban there is no need in the word *it* in such sense. You just use the relation word you need.

> **prami**
> *Someone loves.*

> **bajra**
> *Someone runs.*

bajra ≈ *... runs using limbs*

Again context would probably tell who loves whom and who runs.



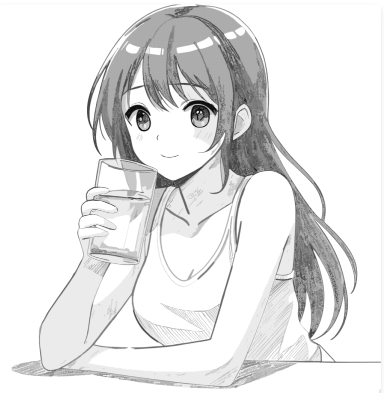
le prenu cu bajra
The person runs.

Task

pinxe ≈ *... drinks ... (something)*
le djacu ≈ *the water*

Close the right part of the table. Translate the sentences on the left from Lojban.

do citka	*You eat.*
mi pinxe le djacu	*I drink water.*
mi citka le plise	*I eat apples.*



le prenu cu pinxe le djacu
The person drinks the water.

«.i» separates sentences

We place a short word **.i** to separate any two consecutive sentences:

> **mi tavla le prenu .i le prenu cu tavla mi**
> *I'm talking to the people. The people are talking to me.*

.i separates sentences like the full stop (period) at the end of sentences in English texts.

When saying one sentence after another in English we make a pause (it may be short) between them. But pause has many different meanings in English. In Lojban we have a better way of understanding where one sentence ends and another begins.

Also note that sometimes when pronouncing words quickly you can't figure out where one sentence ends and the word of the next sentence begins. Therefore it's advised to use the word **.i** before starting a new sentence.

Numbers: ‘*1 2 3 4 5 6 7 8 9 0*’ = «**pa re ci vo mu xa ze bi so no**»

le simply turns a relation construct into an argument, but such argument has no number associated with it. The sentence

> **le prenu cu tavla mi**
> *The people talk to me.*
> *The person talks to me.*

doesn't specify the number of people talking to me. In English, it is impossible to omit the number because *people* in English implies *more than one person*. However, in Lojban, you can omit the number.

Now let's specify how many of the people are relevant to our discussion.

Let's add a number after **le**.

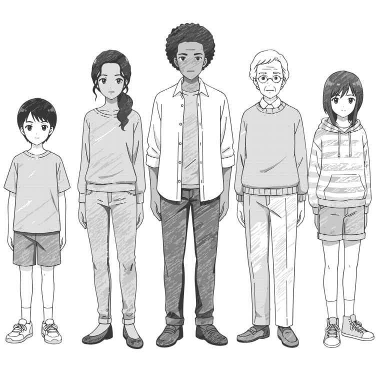
pa	**re**	**ci**	**vo**	**mu**	**xa**	**ze**	**bi**	**so**	**no**
1	2	3	4	5	6	7	8	9	0

> **le pa prenu cu tavla mi**
> *The person talks to me.*
> *The one person talks to me.*

We add a number after **le** and thus specify individual people.

For numbers consisting of several digits, we just string those digits together:

> **le re mu prenu cu tavla mi**
> *The 25 people talk to me.*



le mu prenu
The five people

Yes, it's that simple.

If we want to count, we can separate numbers with **.i**:

> **mu .i vo .i ci .i re .i pa .i no**
> *5 ... 4 ... 3 ... 2 ... 1 ... 0*

The number **za'u** means *more than ...* (> in math), the number **me'i** means *less than* (< in math):

> **le za'u re prenu cu tavla mi**
> *More than two people talk to me.*

> **le me'i pa no prenu cu tavla mi**
> *Fewer than 10 people talk to me.*

> **le za'u ci prenu cu tavla mi**
> *More than three people talk to me.*

To say just *people* (plural number) as opposed to *one person*, we use **za'u pa**, *more than one* or simply **za'u**.

> **le za'u pa prenu cu tavla mi**
> **le za'u prenu cu tavla mi**
> *The people talk to me.*

za'u by default means **za'u pa**, hence such contraction is possible.

le prenu ≈ *the person / the people*
le pa prenu ≈ *the person (one in number)*
le za'u prenu ≈ *the people (two or more in number)*

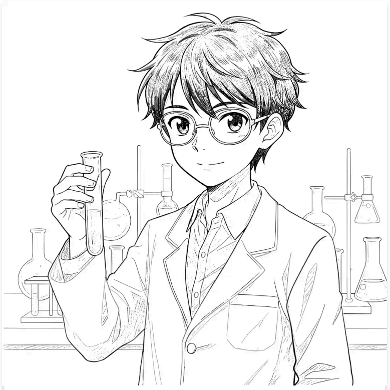
Task

stati ≈ *… (someone) is smart, … has a talent*

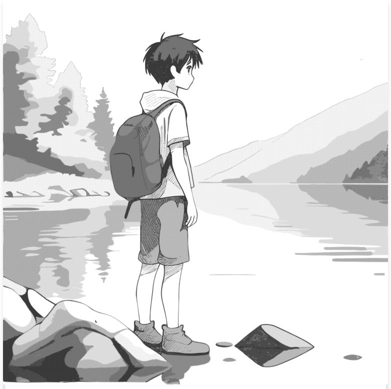
klama ≈ *… comes to … (some place or object)*

nelci ≈ *… likes … (something)*
le zarci ≈ *the market*

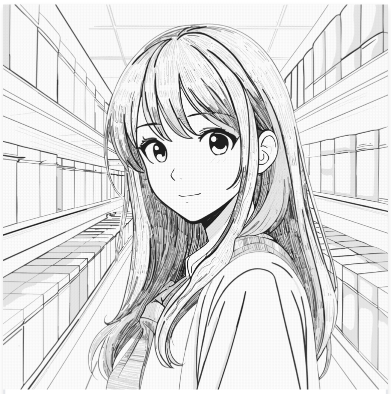
le najnimre ≈ *the orange (fruit), the oranges*



stati
… has a talent

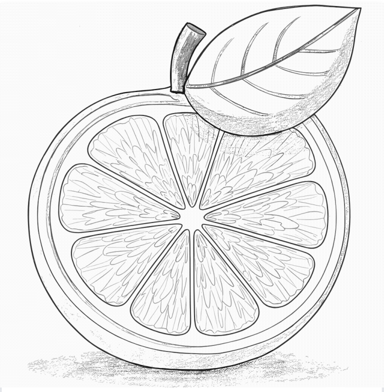


le prenu cu klama ti
The person came here.

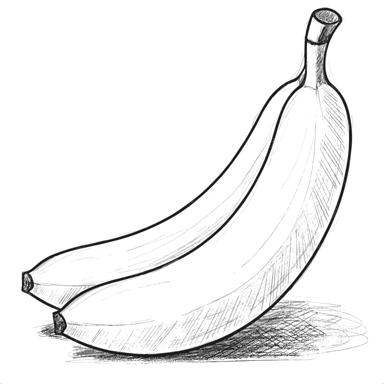


le prenu cu zvati le zarci
The person is at the store.

le badna ≈ *the banana, bananas*



najnimre
... is an orange



badna
... is a banana

Close the right part of the table. Translate the sentences on the left from Lojban.

le mu prenu cu klama le zarci	The five people come to the market.
le pa re prenu cu stati .i do stati	The 12 people are smart. You are smart.
le prenu cu nelci le plise	The people like the apples.
le za'u re prenu cu citka .i le me'i mu prenu cu pinxe le djacu	More than two people eat. Fewer than 5 people drink the water.
le za'u re prenu cu stati	More than two people are smart.

Close the right part of the table. Translate the sentences on the left to Lojban.

The 256 people are smart.	le re mu xa prenu cu stati
Fewer than 12 apples are tasty.	le me'i pa re plise cu kukte

Compound relation

Compound relation construct (**tanru** in Lojban) are several relation words placed one after another.

> **tu melbi zdani**
> *That one is a nice home.*

tu ≈ *that one (away from you and me)*
melbi ≈ *… is beautiful, nice*
zdani ≈ *… is a home or nest to … (someone)*
melbi zdani ≈ *compound relation construct: … is a beautiful home to … (someone)*

> **do melbi dansu**
> *You nicely dance.*

dansu ≈ *… dances*

melbi zdani
… is a nice home

Here, the relation **melbi** adds an additional meaning as it is placed to the left of another relation: **zdani**. The left component is usually translated using adjectives and adverbs.

Compound relations are a powerful feature that produces richer meanings. You just string two relation words together, and the left component of such compound relation adds a flavor to the right one.

We can put **le** (e.g. with a number) to the left of such compound relation getting a richer argument term:

le pa melbi zdani ≈ *the beautiful home*

le prenu cu melbi dansu
The person nicely dances.

Now we know why there was **cu** after head terms in our example:

> **le pa prenu cu tavla mi**
> *The person talks to me.*

Without **cu** it'd turn into **le pa prenu tavla**, which would have the meaning of *the person-talker* - whatever that could mean.

Consider:

> **le pa tavla pendo**
> *The talking friend*

> **le pa tavla cu pendo**
> *The talking one is a friend.*

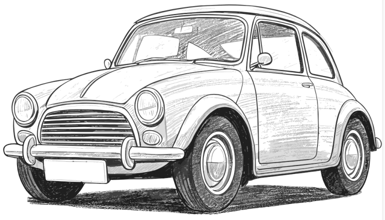
Remember about placing **cu** before the main relation construct in a sentence to prevent unintentional creation of compound relations.

Compound relation can contain more than two components. In this case, the first relation modifies the second one, the second one modifies the third, and so on:

> **le pa melbi cmalu karce**
> *the pretty-small car, the car small in a pretty way*

> **le mutce melbi zdani**
> *the very beautiful home*

mutce ≈ *… is very, … is much*



ti cmalu karce
This is a small car.

Task

sutra ≈ *… is quick*
barda ≈ *… is big*
cmalu ≈ *… is small*
mlatu ≈ *… is a cat*

Close the right part of the table. Translate the sentences on the left from Lojban.

le melbi karce	*the beautiful car / the beautiful cars*
do sutra klama	*You quickly come. You come fast.*
tu barda zdani	*That is a big home.*
le pa sutra bajra mlatu	*the quickly running cat*
le pa sutra mlatu	*the quick cat*
le pa bajra mlatu	*the running cat*

Close the right part of the table. Translate the sentences on the left to Lojban.

cadzu ≈ *… walks*

This is a small car.	**ti cmalu karce**
tasty apples	**le kukte plise**
the quick eaters	**le sutra citka**
You are a quickly walking person.	**do sutra cadzu prenu**

‘*Yes/No*’ questions

In English, we form a *yes/no* question by changing the order of the words, for example

> *You are … ⇒ Are you …?*

or by using some form of the verb *to do* at the beginning, for example:

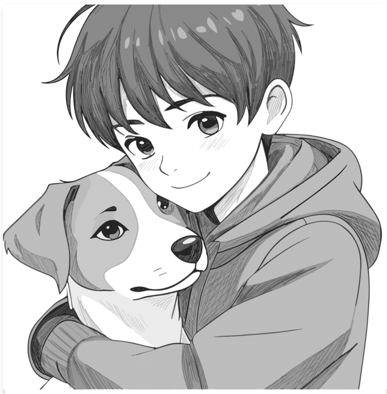
> *You know … ⇒ Do you know?*

In Lojban, the word order can be retained. To turn any assertion into a *yes/no* question, we simply insert the word **xu** at the beginning of the sentence:

> **xu do nelci le gerku**
> *Do you like the dogs?*

le gerku ≈ *the dog, the dogs*

Remember that in Lojban, punctuation like "?" (question mark) is optional and used mostly for stylistic purposes. This is because the question word **xu** already shows that it is a question.



ti prenu .i ti gerku
This is a person. This is a dog.

Other examples:

> **xu mi klama**
> *Am I coming?*

klama ≈ *… comes to … (somewhere)*

> **xu pelxu**
> *Is it yellow?*

pelxu ≈ *... is yellow*

We can shift the meaning by placing **xu** after different parts of the sentence. Explanations what changed in the meaning are given in brackets:

> **xu do nelci le gerku**
> *Do you like the dogs?*

> **do xu nelci le gerku**
> *Do YOU like the dogs?*
> (I thought it was someone else who likes them).

> **do nelci xu le gerku**
> *Do you LIKE the dogs? (I thought you were just neutral towards them).*

> **do nelci le xu gerku**
> *Do you like THE DOGS? (I thought you liked the cats).*

> **do nelci le gerku xu**
> *You like those things, are they dogs? (You only question the validity of the relation **gerku**).*

What is expressed using intonation in English is expressed by moving **xu** after the part we want to emphasize in Lojban. Note that the first sentence with **xu** in the beginning asks the most generic question without stressing any particular aspect.

xu is an interjection word. Here are the features of Lojban interjections:

- interjection modifies the construct before it:

> **do xu nelci le gerku**
> *Do YOU like the dogs?*

- when placed at the beginning of a relation, interjection modifies the whole relation:

> **xu do nelci le gerku**
> *Do you like the dogs?*

- interjections can be placed after different parts of the same relation to shift the meaning.

> **do nelci le gerku xu**
> *You like those entities, are they dogs?*

Here, only the relation **gerku** (not the argument **le gerku**) is modified by the question word **xu**. So here we wonder only of that relation. We assert that you like these objects or live beings and we ask you if those are dogs.

Interjections don't break compound relations, they can be used within them:

> **do nelci le barda xu gerku**
> *Do you like the BIG dogs?*

Now, how to reply to such 'yes/no' questions? We repeat the main relation construct:

> **— xu le mlatu cu melbi**
> **— melbi**
> *— Are the cats pretty?*
> *— Pretty.*

To answer 'no', we use the modal term **na ku**:

> **— xu le mlatu cu melbi**
> **— na ku melbi**
> *— Are the cats pretty?*
> *— Not pretty.*

na ku ≈ *term: it is false that …*

Or, we can use a special relation word **go'i**:

> **— xu le mlatu cu melbi**
> **— go'i**
> *— Are the cats pretty?*
> *— Pretty.*

go'i ≈ *relation word that repeats the main relation of the previous sentence*

Here, **go'i** means the same as **melbi** since **melbi** is the relation of the previous relation.

> **— xu le mlatu cu melbi**
> **— na ku go'i**
> *— Are the cats pretty?*
> *— Not pretty.*

The modal term **na ku** can be used not only in answers:

> **na ku mi nelci le gerku**
> *It is false that I like the dogs.*
> *I don't like the dogs.*

> **mi na ku nelci do**
> *I don't like you.*

Its opposite, the term **ja'a ku** affirms the meaning:

> **mi ja'a ku nelci do**
> *I do like you.*

ja'a ku ≈ *term: it is true that …*

Task

Close the right part of the table. Translate the sentences on the left from Lojban.

le verba ≈ *the child, the children*

xu le barda zdani cu melbi	*Is the big home beautiful?*
— le prenu cu stati xu **— na ku stati**	*— Are the people smart?* *— No.*
do klama le zarci xu	*Do you go to the market?*
xu le verba cu prami le mlatu	*Does the child love the cats?*

Close the right part of the table. Translate the sentences on the left to Lojban.

Is the car fast?	**xu le karce cu sutra**
— Is the orange tasty? *— Yes, it is.*	**— xu le najnimre cu kukte** **— kukte**
Does the dog love you?	**xu le gerku cu prami do**

Happiness and polite requests: ‘*Yay!*’ = «**ui**», ‘*Please!*’ = «**.e'o**»

The interjection **ui** show happiness of the one who is speaking. It is used just like the smiley face ‘*:)*’ the smiley-face in messaging, to indicate that you're glad of something. Although, smileys can be ambiguous, and **ui** has only one meaning, which is handy.

> **ui do klama**
> *Yay, you are coming!*

ui ≈ *interjection: Yay!, interjection of happiness*

The interjection **.e'o** at the beginning of a sentence turns it into a polite request:

> **.e'o do lebna le fonxa**
> *Could you take the phone, please?*
> `Please take the phone.`

.e'o ≈ *interjection: please (pronounced as eh-haw with a short pause or break before the word)*
lebna ≈ *to take (something)*

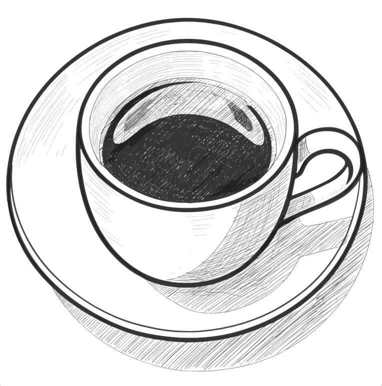
In English, to be polite, one has to use *could you* + *please* + a question. In Lojban, **.e'o** is enough to make a polite request.

Task

Close the right part of the table. Translate the sentences on the left from Lojban.

le tcati ≈ *the tea*

le ckafi ≈ *coffee*

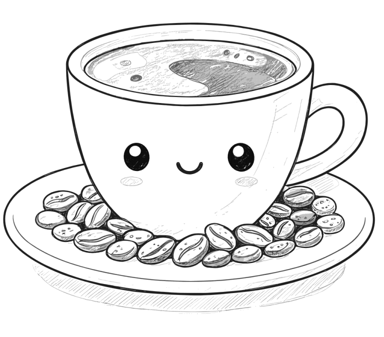


tcati
… is some tea

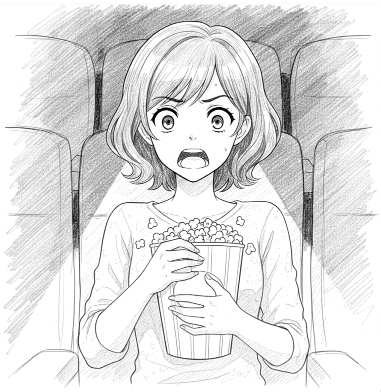
zgana ≈ *to watch, observe (using any senses)*
le skina ≈ *the film, the movie*

kurji ≈ *to care of (someone, something)*

ui carvi	*Yay, it rains! Yay, it is raining!*
.e'o do sutra bajra	*Run quickly!*
.e'o do pinxe le tcati	*Please, drink tea!*
.e'o zgana le skina	*Please, watch the film!*



ckafi
… is some coffee



le prenu cu zgana le skina
The person watches the movie.

Close the right part of the table. Translate the sentences on the left to Lojban.

Please, be smart!	**.e'o do stati**
Please, go home!	**.e'o do klama le zdani**
Please, drink the coffee!	**.e'o do pinxe le ckafi**
Yay, I talk to you!	**ui mi tavla do**
Please, take care of the child.	**.e'o do kurji le verba**

‘*And*’ and ‘*or*’

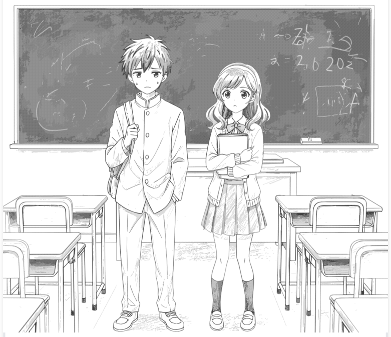
> **do nintadni .i je mi nintadni**
> *You are a newbie. And I am a newbie.*

> **do .e mi nintadni**
> *You and I are newbies.*

> **mi tadni .i je mi tavla do**
> *I study. And I talk to you.*

> **mi tadni gi'e tavla do**
> *I study and talk to you.*

.i je ≈ *conjunction "and" combining sentences into one.*
.e ≈ *conjunction "and" connecting arguments.*
gi'e ≈ *conjunction "and" connecting sentence tails.*


do .e mi nintadni
You and I are new students.

We can combine two sentences into one statement using the conjunction **.i je**, which means *and*:

> **do nintadni .i je mi nintadni**
> *You are a newbie. And I am a newbie.*

Since both sentences have the same tail, we can use a contraction: the conjunction **.e** means *and* for arguments:

> **do .e mi nintadni**
> *You and I are newbies.*

do nintadni .i je mi nintadni means exactly the same as **do .e mi nintadni**

We can also use **.e** for connecting arguments in other positions.

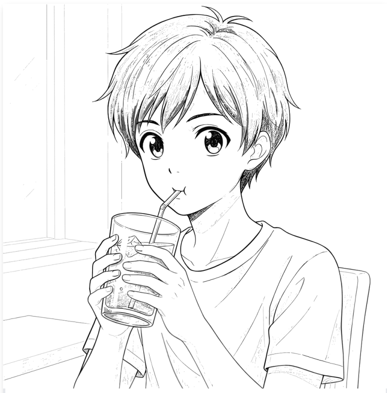
Both of these sentences mean the same thing.

> **mi pinxe le djacu .e le jisra**
> *I drink the water and the juice.*
> **mi pinxe le djacu .i je mi pinxe le jisra**
> *I drink the water, and I drink the juice.*

le jisra ≈ *juice*

If the sentence head is the same but the tails differ, we use the conjunction **gi'e**, which means *and* for sentence tails:

> **mi tadni .i je mi tavla do**
> **mi tadni gi'e tavla do**
> *I study and talk to you.*

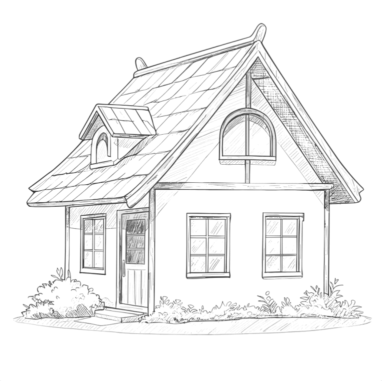

le prenu cu pinxe le jisra
The person drinks the juice.

Both variations mean the same; **gi'e** simply leads to a more concise form.

There are also ways to add *and* for components of compound relations:

> **le melbi je cmalu zdani cu jibni ti**
> *The pretty and small home is near.*

jibni ≈ *… is near to …*
ti ≈ *this thing, this place near me*



melbi je cmalu zdani
… is a pretty-and-small home

je is a conjunction that means *and* in compound relations.

Without **je**, the sentence changes the meaning:

> **le melbi cmalu zdani cu jibni**
> *The prettily small home is near.*

Here **melbi** modifies **cmalu**, and **melbi cmalu** modifies **zdani**, according to how compound relations work.

In **le melbi je cmalu zdani** (*the pretty and small house*) both **melbi** and **cmalu** modify **zdani** directly.

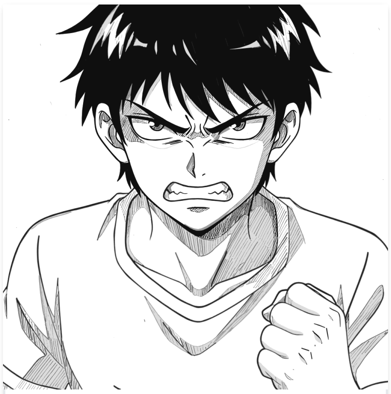
Other common conjunctions include:

> **le verba cu fengu ja bilma**
> *The child is angry or ill (or maybe both angry and ill)*

> **do .a mi ba vitke le dzena**
> *You or I (or both of us) will visit the ancestor.*

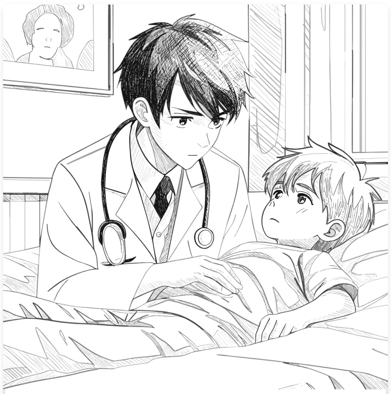
ja ≈ *and/or inside compound relations*
.a ≈ *and/or when connecting arguments*
fengu ≈ *… is angry*

bilma ≈ *… is ill*



fengu
… is angry

vitke ≈ *to visit (someone)*
dzena ≈ *... is an ancestor of ...*



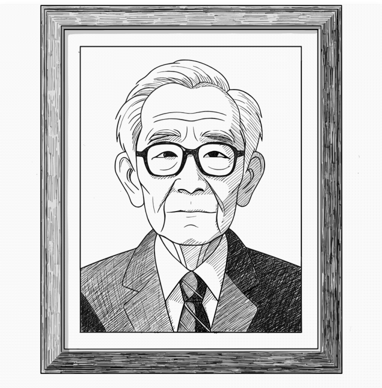
le prenu cu bilma
The person is ill

> **le karce cu blabi jo nai grusi**
> *The car is either white or gray.*

> **do .o nai mi vitke le laldo**
> *Either you or I visit the old one.*

jo nai ≈ *either ... or ... but not both*
.o nai ≈ *either ... or ... but not both (when connecting arguments)*
laldo ≈ *... is old*

Note: it's better to remember **jo nai** as a single construct, and the same for **.o nai**.

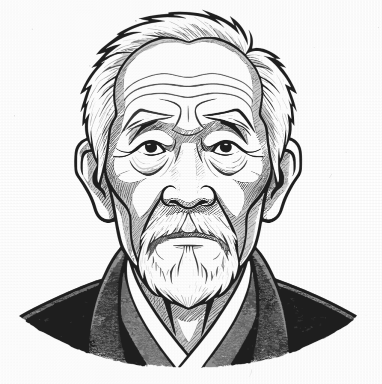


dzena
... is an ancestor of ...

> **mi prami do .i ju do stati**
> *I love you. Whether or not you are smart.*

> **le verba cu nelci le plise .u le badna**
> *The child likes the apples whether or not (he/she likes) the bananas.*

ju ≈ *whether or not ...*
.u ≈ *whether or not ... (when connecting arguments)*



laldo
... is old

«**joi**» is ‘*and*’ for mass actions

> **do joi mi casnu le bangu**
> *You and I are discussing the language.*

casnu ≈ *... discusses ...*
le bangu ≈ *the language*
joi ≈ *conjunction and for masses*

If I say **do .e mi casnu le bangu** it may mean that you discuss the language, and I discuss the language. But it doesn't necessarily mean that we are in the same conversation!

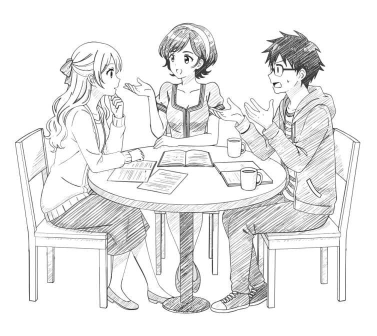
This distinction can be made more visible if we expand this sentence using **.i je**:

> **do .e mi casnu le bangu**
> **do casnu le bangu .i je mi casnu le bangu**
> *You discuss the language. And I discuss the language.*

In order to emphasize that you and I participate in the same action, we use a special conjunction **joi** meaning *and* that forms a "mass":

> **do joi mi casnu le bangu**
> *You and I are discussing the language.*
> *You and I being a single entity for this event are discussing the language.*

There also exists a pronoun **mi'o** (*you and I together*), which can be rephrased as **mi joi do** (it's just longer). In Lojban, you may use not a single word for *we* but more precise constructs like **mi joi le pendo** (literally *I and the friends*).



do joi le pendo joi mi casnu
You, the friend and I are in a discussion.

Task

Close the right part of the table. Translate the sentences on the left from Lojban.

mi nelci le badna .e le plise	*I like the bananas, and I like the apples. I like the bananas and the apples.*
do sutra ja stati	*You are quick or smart or both.*
le za'u prenu cu casnu le karce .u le gerku	*The people discuss the cars whether or not (they discuss) the dogs.*
mi citka le najnimre .o nai le badna	*I eat either the oranges or the bananas.*

Close the right part of the table. Translate the sentences on the left to Lojban.

le pendo ≈ *the friend, the friends*
catlu ≈ *… looks at … (something)*

The friends and I like the rain.	**le pendo .e mi cu nelci le carvi**
Either I or you go to the market.	**mi .o nai do klama le zarci**
I look at the big and beautiful car.	**mi catlu le barda je melbi karce**
The child drinks the water and/or the juice.	**le verba cu pinxe le djacu .a le jisra**
The child and the small one discuss the car.	**le verba joi le pa cmalu cu casnu le karce** (note the use of **joi**. *the small one* is just **le pa cmalu**).

But …

> **le najnimre cu barda .i je ku'i le badna cu cmalu**
> *The oranges are big. But the bananas are small.*

ku'i ≈ *interjection: but, however*

Actually, in English, *but* is the same as *and*, and it adds a flavor of contrast.

In Lojban, we just use the conjunction **.i je** (or **.e**, **gi'e**, **je**, depending on what we connect) and add the flavor of contrast to it with the interjection **ku'i**. As usual, the interjection modifies the construct before it.

Events: '*dancing and being together*' — «**le nu dansu .e le nu kansa**»

Some slots of relations expect an event:

> **le cabna cu nicte**
> *Now it's nighttime. At present it's night.*

cabna ≈ *… (event) is at present with …; … (event) happens now*
le cabna ≈ *the present time, the present event*
nicte ≈ *… (event) happens at night*

But what if we want to describe an event using a whole sentence?

Any sentence can be turned into a relation construct by putting **nu** in front of it:

> **le nicte cu nu mi viska le lunra**
> *The night is when I see the Moon.*
> `Nighttime is an event when I see the Moon.`

le nicte ≈ *the nighttime, nighttimes*
viska ≈ *to see (something)*
le lunra ≈ *the Moon*

Here, **le nicte** is the first argument of the sentence and **nu mi viska le lunra** is the main relation construct of the sentence. However, inside this main relation, we can see another relation: **mi viska le lunra** embedded!

The word **nu** transforms a complete sentence into a relation that denotes an event (in its generic sense, its can be a process, a state etc.)

Here are some more examples:

nu mi tavla ≈ *… is an event of me talking*
nu do tavla ≈ *… is an event of you talking*

By adding **le** in front of **nu**, we create an argument that denotes an event:

pinxe ⇒ **le nu pinxe** ≈ *… drinks* ⇒ *the drinking*
dansu ⇒ **le nu dansu** ≈ *… dances* ⇒ *the dancing*
kansa ⇒ **le nu kansa** ≈ *… is together with …* ⇒ *being together*
klama ⇒ **le nu klama** ≈ *… comes to …* ⇒ *the coming*
le nu do klama ≈ *the coming of you, you coming*

le nu often corresponds to English *-ing*, *-tion*, *-sion.*

Some more examples with slots that expect events instead of ordinary entities:

> **mi djica le nu do klama ti**
> *I want you to come here (to this place)*

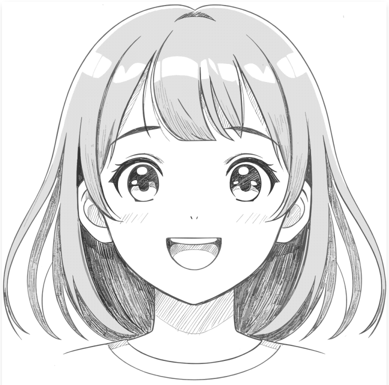
djica ≈ *… wants … (some event)*

> **mi gleki le nu do klama**
> *I'm happy because you are coming.*

gleki ≈ *… is happy of … (some event)*

> **le nu pinxe le jisra cu nabmi mi**
> *Drinking the juice is a problem to me.*

nabmi ≈ *... (event) is a problem to ... (someone), ... (event) is problematic to ... (someone)*



gleki
... is happy about event ...

Task

Close the right part of the table. Translate the sentences on the left from Lojban.

pilno ≈ *to use (something)*
le skami ≈ *the computer*

mi nelci le nu do dansu	*I like you dancing.*
xu do gleki le nu do pilno le skami	*Are you happy of using computers?*
do djica le nu mi citka le plise xu	*Do you want me to eat the apple?*

Close the right part of the table. Translate the sentences on the left to Lojban.

Coming here is a problem.	**le nu klama ti cu nabmi**
I want you to be happy.	**mi djica le nu do gleki**

Modal terms. Simple tenses: '*was*', '*is*', '*will be*' — «**pu**», «**ca**», «**ba**»

In Lojban, we express the time when something happens (grammatically, in English it's usually called *tense*) with modal terms. We've already seen the modal term **ca** meaning *at present*.

Here is a series of time-related terms that tell when something happens:

> **le prenu pu cu tavla mi**
> *The people talked to me.*

> **le prenu ca cu tavla mi**
> *The people talk to me (at present).*

> **le prenu ba cu tavla mi**
> *The people will talk to me.*

When after the time-related particle we place a bare argument then we form a term with a slightly different meaning:

> **mi pinxe le djacu ca le nu do klama**
> *I drink the water while you are coming.*

The **ca le nu do klama** part is a long term meaning *while you come / while you are coming*. The **le nu do klama** is an argument meaning *coming of you, you coming*.

> **mi citka ba le nu mi dansu**
> *I eat after I dance.*

Time-related particles are grouped into series by their meaning to make them easier to remember and use.

Words for simple tense:

- **pu** means *before … (some event)*, **pu** alone denotes past tense.
- **ca** means *at the same time as … (some event)*, **ca** alone denotes present tense.
- **ba** means *after … (some event)*, **ba** alone denotes future tense.

Tenses add information about time when something happens. English forces us to use certain tenses. One has to choose between

- *The people talk to me.*
- *The people talked to me.*
- *The people will talk to me.*

and other similar choices.

But in Lojban tense particles are optional, we can be as vague or as precise as we want.

The sentence

> **le prenu cu tavla mi**
> *The people talk to me.*

actually says nothing about when this happens. Context is clear enough in most cases and can help us. But if we need more precision we just add more words.

ba means *after ... (some event)* so when we say **mi ba cu citka** we mean that we eat after the moment of speaking, that's why it means *I will eat.*

We can combine tense particles with and without arguments after them:

> **mi pu cu citka le plise ba le nu mi dansu**
> *I ate the apples after I danced.*

Note that the term **pu** (past tense) is put only in the main relation (**mi pu cu citka**). In Lojban, it is assumed that the event *I danced* occurs relative to the event of eating.

We shouldn't put **pu** with **dansu** (unlike English) as **mi dansu** is viewed relative to **mi pu cu citka** so we already know that everything was in past.

More examples of time-related terms:

> **le nicte cu pluka**
> *The night is pleasant.*

pluka ≈ *... is pleasant*

> **ba le nicte cu pluka**
> *After the night it is pleasant.*

Here, the head of the sentence contains one term **ba le nicte**, a modal term with its inner argument. Then after the separator **cu**, the main relation of the sentence **pluka** is followed (**pluka** alone means *It is pleasant.*)

To say *will be pleasant* we should use the future tense term:

> **le nicte ba cu pluka**
> *The night will be pleasant.*

Also note that adding an argument after a time-related particle can lead to a drastically different meaning:

> **le nicte ba le nu citka cu pluka**
> *The night is pleasant after eating.*

Note that **ca** can extend slightly into the past and the future, meaning *just about now*. Thus, **ca** reflects a widely used around the world notion of "present time".

It's also possible to integrate modal particles into the main relation construct:

> **le nicte ba cu pluka**
> **le nicte ba pluka**
> *The night will be pleasant.*

Both sentences mean the same, **ba pluka** is a relation construct meaning … *will be pleasant.*

The structure of **le nicte ba pluka** is the following:

- **le nicte** — the head of the sentence with just one term **le nicte**
- **ba pluka** — the tail of the sentence that only consists of the relation **ba pluka**

Contrast this with the previous sentence **le nicte ba cu pluka**:

- **le nicte ba** — the head of the sentence with two terms **le nicte** and **ba**
- **pluka** — the tail of the sentence that only consists of the relation **pluka**

The advantage of **le nicte ba pluka** over **le nicte ba cu pluka** is only in conciseness; you can usually skip saying **cu** in such cases since the sentence can't be understood otherwise anyway.

If you wish to put a modal term before an argument term you can separate it from the following text by explicitly "ending" the term with the helper word **ku**:

> **ba ku le nicte cu pluka**
> **le nicte ba cu pluka**
> **le nicte ba pluka**
> *The night will be pleasant.*

ku prevents **ba le nicte** from appearing thus retaining **ba ku** and **le nicte** as separate terms.

One last note: English definitions of Lojban words may use tenses even when the original Lojban words do not imply them, e.g.:

tavla ≈ *… talks to …, … speaks to …*
pluka ≈ *… is pleasant*

Although *talks*, *is* etc. are in the present tense (we can't always get rid of tense in English words because that's how English works), we must always assume that tense is not implied in the meaning of the defined Lojban words unless the English definition of such words explicitly mentions such tense restrictions.

Task

Close the right part of the table. Translate from Lojban:

mi pu gleki	*I was happy.*
do ba tavla mi	*You will talk to me.*
le verba ca citka	*The child eats (now).*
mi pu citka ba le nu mi cadzu	*I ate after I walked.*

Close the right part of the table. Translate to Lojban:

tsali ≈ *... is strong*

I will be strong.	**mi ba tsali**
The dog was small.	**le gerku pu cmalu**
I eat before I sleep.	**mi citka pu le nu mi sipna**

Modal terms. Event contours: «**co'a**», «**ca'o**», «**co'i**»

Another series of time-related particles, *event contours*:

co'a ≈ *tense particle: the event is at its beginning*
ca'o ≈ *tense particle: the event is in progress*
mo'u ≈ *tense particle: the event is complete*
co'i ≈ *tense particle: the event is viewed as a whole (has started and then finished)*

Most relation words describe events without specifying the stage of those events. Event contours allow us to be more precise:

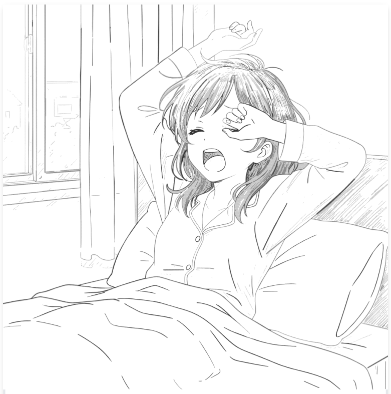
> **mi pu co'a cu cikna**
> **mi pu co'a cikna**
> *I woke up.*

cikna ≈ *... is awake*
co'a cikna ≈ *... wakes up, becomes awake*
pu co'a cikna ≈ *... woke up, became awake*

To precisely express the English Progressive tense, we use **ca'o**:

> **mi pu ca'o cu sipna**
> **mi pu ca'o sipna**
> *I was sleeping.*

sipna ≈ *... sleeps*



le prenu co'a cikna
The person wakes up.

> **mi ca ca'o pinxe**
> *I am drinking.*

> **mi ba ca'o pinxe**
> *I will be drinking.*

le mlatu ca'o sipna
The cat is sleeping.

mo'u is used for describing the completion of events:

> **mi mo'u klama le tcana**
> *I arrived at the station.*

le tcana ≈ *the station*

le prenu mo'u klama le tcana
The person has arrived at the station.

co'i usually corresponds to the English Perfect tense:

> **le verba ca co'i pinxe le jisra**
> *The children have drunk the juice.*

We could omit **ca** in these sentence since the context would be clear enough in most such cases.

he English Present Simple tense describes events that happen sometimes:

> **le prenu ca ta'e tavla**
> *The people (habitually, sometimes) talk.*

ta'e ≈ *simple tense: the event happens habitually*

We can use the same rules for describing the past using **pu** instead of **ca** or the future using **ba**:

> **le prenu pu co'i tavla mi**
> *The people had talked to me.*

> **le prenu ba co'i tavla mi**
> *The people will have talked to me.*

The relative order of time-related particles is important. In **ca co'i** we first say something happens in present (**ca**), then we state that in this present time, the described event has been completed (**co'i**). Only when using this order do we get the Present Perfect tense.

Task

Close the right part of the table. Translate from Lojban:

mi co'a sipna	*I fell asleep.*
mi ca'o pinxe le tcati	*I am drinking the tea.*
le prenu co'i tavla	*The person has talked.*
mi mo'u citka le plise	*I finished eating the apple.*

Close the right part of the table. Translate to Lojban:

I will be sleeping.	**mi ba ca'o sipna**
The child has eaten.	**le verba co'i citka**
The dog started running.	**le gerku co'a bajra**

Modal terms. Intervals: '*during*' — «**ze'a**»

Another series of modal particles emphasizes that events happen during an interval:

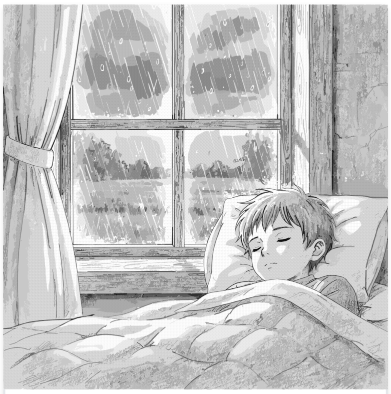
ze'i ≈ *for a short time*
ze'a ≈ *through some time, for a while, during ...*
ze'u ≈ *for a long time*

> **mi pu ze'a cu sipna**
> **mi pu ze'a sipna**
> *I slept for a while.*

> **mi pu ze'a le nicte cu sipna**
> *I slept through the night. I slept all night.*

Note: we cannot elide **cu** here since **nicte sipna** (*... is a night sleeper*) is a tanru and thus would lead to some other (if weird) meaning.

> **mi pu ze'i le nicte cu sipna**
> *I slept through the short night.*



le prenu cu sipna ze'a le nu carvi
The person is sleeping while it's raining.

Compare **ze'a** with **ca**:

> **mi pu ca le nicte cu sipna**
> *I slept at night.*

le nicte ≈ *the nighttime*

When using **ze'a**, we are talking about the whole interval of what we describe.

Note that **nicte** is itself an event, so we don't need **nu** here.

Task

Close the right part of the table. Translate from Lojban:

mi ze'a sipna	*I slept for a while.*
mi ze'u tavla do	*I talk to you for a long time.*
mi ze'i citka	*I eat for a short time.*
mi pu ze'a cadzu	*I walked for a while.*

Close the right part of the table. Translate to Lojban:

kelci ≈ *... plays*

I will sleep through the night.	**mi ba ze'a le nicte cu sipna**
I drank for a long time.	**mi pu ze'u pinxe**
The child will play for a short time.	**le verba ba ze'i kelci**

Modal terms. ‘*because*’ — «**ri'a**», ‘*towards*’ — «**fa'a**», ‘*at (place)*’ — «**bu'u**»

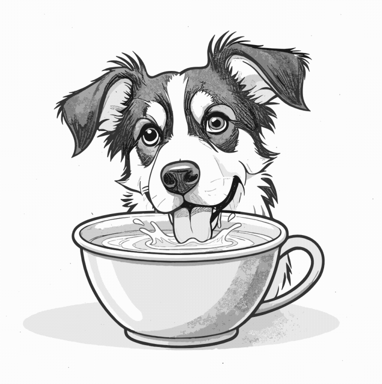
Modal particle for *because*:

> **mi pinxe ri'a le nu mi taske**
> *I drink because I am thirsty.*

> **mi citka ri'a le nu mi xagji**
> *I eat because I am hungry.*

ri'a ≈ *because … (of some event)*
taske ≈ *… is thirsty*

xagji ≈ *… is hungry*



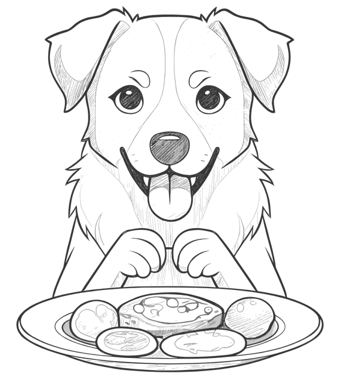
taske
… is thirsty

Modal particles denoting place work in the same way:

> **mi cadzu fa'a do to'o le zdani**
> *I walk in the direction of you away from the home.*

Note that, unlike **klama**, the modal particles **fa'a** and **to'o** denote directions, not necessarily start or end points of the route. For example:

> **le prenu cu klama fa'a do**
> *The person comes towards you.*



xagji
... is hungry

means that the person is simply moving towards your direction, but not necessarily to you (maybe to some place or person near you).

> **mi cadzu bu'u le tcadu**
> *I walk in the city.*

tcadu ≈ *... is a city*
fa'a ≈ *towards ..., in the direction of ...*
to'o ≈ *from ..., from the direction of ...*
bu'u ≈ *at ... (some place)*

Note: **nu** shows that a new inner embedded sentence starts within the main sentence. We put **kei** after such relation to show its right border, similar to how we use ")" or "]" in math. For example:

> **le gerku cu plipe fa'a mi ca le nu do ca'o klama**
> *The dog jumps towards me when you are coming.*

plipe ≈ *to jump*

but

> **le gerku cu plipe ca le (nu do ca'o klama kei) fa'a mi**
> *The dog jumps (when you are coming) towards me.*

le gerku cu plipe fa'a mi
The dog jumps towards me.

Brackets *(* and *)* are used here only to show the structure; they are not necessary in a normal Lojban text.

We use **kei** after the inner sentence **do ca'o klama** to show that it ended, and the tail of the external sentence (***le gerku cu plipe...**) continues with its terms.

Compare this sentence with the following:

> **le gerku cu plipe ca le (nu do ca'o klama fa'a mi)**
> *The dog jumps (when you are coming towards me).*

As you can see, **do klama fa'a mi** is a relation inside the bigger one, so **fa'a mi** is now inside it.

Now, it's not the dog that comes towards me, but you.

At the end of sentences, **kei** is never needed as the end of any sentence is a right border by itself anyway.

Consider the following example with a time-related particle:

> **mi pu citka le plise ba le nu mi dansu**
> *I ate the apples after I danced.*

> **mi pu citka ba le nu mi dansu kei le plise**
> *I ate (after I danced) the apples.*

We can rearrange the sentence by moving **ba le nu mi dansu** around, as long as it remains after **pu**.

Task

Close the right part of the table. Translate the sentences on the left from Lojban.

ko ≈ *you (used for commands and requests)*
le tsani ≈ *the sky*
zvati ≈ *…is present at … (some place or event), … stays at … (some place)*
le canko ≈ *the window*
le fagri ≈ *the fire*
mi'o ≈ *You and I*
le purdi ≈ *the garden*
le tcati ≈ *the tea*

mi ca gleki le nu do catlu le tsani	*I am happy that you look at the sky.*
xu le gerku pu ca'o zvati le zdani	*Were the dogs staying at home?*
do pu citka le plise ba le nu mi pinxe le jisra	*You ate the apples after I drank the juice.*
ko catlu fa'a le canko	*Look towards the window.*
xu do gleki ca le nu do ca'o cadzu bu'u le purdi	*Are you happy when you are walking in the garden?*
ca le nu mi klama le zdani kei do pinxe le tcati ri'a le nu do taske	*When I go home you drink tea because you are thirsty.*

Close the right part of the table. Translate the sentences on the left to Lojban.

You will look at the car.	**do ba catlu le karce**
You want it to rain in future.	**do ca djica le nu ba carvi**
Quickly run away from the fire!	**ko sutra bajra to'o le fagri**
You and I were staying together at home when it was raining.	**mi'o pu ca'o zvati le zdani ca le nu carvi**

Task

Close the right part of the table. Translate from Lojban:

mi citka ri'a le nu mi xagji	*I eat because I'm hungry.*
mi cadzu fa'a le zdani	*I walk towards the house.*
mi sipna bu'u le zdani	*I sleep in the house.*
mi cadzu to'o do	*I walk away from you.*

Close the right part of the table. Translate to Lojban:

terpa ≈ *… is afraid of … (some event)*

I run because I am afraid.	**mi bajra ri'a le nu mi terpa**
The dog walks in the garden.	**le gerku cu cadzu bu'u le purdi**
The child runs towards me.	**le verba cu bajra fa'a mi**

Names. Choosing a name

cmevla, or *name word*, is a special kind of word used to build names. It's easy to recognize le cmevla in a text flow, as they are the only words that end in a consonant and are wrapped by one dot on each side.

Examples of le cmevla are: **.paris.**, **.robin.**

If one's name is *Bob* then we can create a cmevla ourselves that would sound as close as possible to this name, for example: **.bab.**

The simplest example of using a name would be

> **la .bab. cu tcidu**
> *Bob reads/is reading.*

tcidu ≈ *… reads*

la is similar to **le**, but it converts a word into a name instead of a simple argument.

In English, we start a word with a capital letter to show that it is a name. In Lojban, we use the prefix word **la**.

Always use **la** when producing names!

A name can consist of several cmevla one after another:

le prenu ca'o tcidu
The person is reading.

> **la .bab.djansyn. cu tcidu**
> *Bob Johnson reads/is reading.*

Here, we separated the two cmevla with just one dot, which is enough.

It's common to omit dots in front of and at the end of le cmevla to write texts faster, for example, when text chatting. After all, le cmevla are still separated from neighboring words by spaces around them:

> **la bab djansyn cu tcidu**

However, in spoken language, it is still necessary to put a short pause before and after le cmevla.

Bob's first name, the name of the language *Lojban*, can be used in Lojban without many changes:

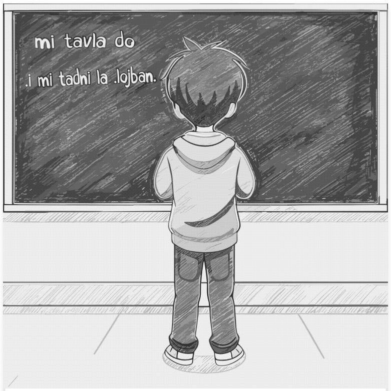
> **la .lojban. cu bangu mi**
> *I speak Lojban.*
> Lojban is a language of me.
> `Lojban is a language I use.`

bangu ≈ *… is a language used by … (someone)*

> **mi nintadni la .lojban.**
> *I am a new student of Lojban.*

> **mi tadni la .lojban.**
> *I study Lojban.*

Lojban letters directly correspond to sounds, so there are some rules for adapting names to how they are written in Lojban. This may sound strange — after all, a name is a name — but all languages do this to some extent. For example, English speakers tend to pronounce *Jose* as *Hozay*, and *Margaret* in Chinese is *Măgélìtè*. Some sounds simply don't exist in some languages, so you need to rewrite the name so that it only contains Lojban sounds and is spelt according to letter-sound correspondence.


mi tavla do
.i mi tadni la .lojban.

le prenu ca ca'o tadni la .lojban.
The person is now studying Lojban.

For example:

> **la .djansyn.** ≈ *Johnson (probably, closer to American pronunciation)*
> **la .suzyn.** ≈ *Susan (the two letters s are pronounced differently: the second one is actually a z, and the a is not really an a sound)*

Pay attention to how the name is pronounced natively. As a result, the English and French names *Robert* come out differently in Lojban: the English name is **.robyt.** in UK English, or **.rabyrt.** in some American dialects, but the French is **.rober.**

Here are "Lojbanizations" of some names:

- *Alice* ⇒ **la .alis.**
- *Mei Li* ⇒ **la .meilis.**
- *Bob* ⇒ **la .bab.**
- *Abdul* ⇒ **la .abdul.**
- *Yan or Ian* ⇒ **la .ian.**
- *Ali* ⇒ **la .al.**
- *Doris* ⇒ **la .doris.**
- *Michelle* ⇒ **la .micel.**
- *Kevin* ⇒ **la .kevin.**
- *Edward* ⇒ **la .edvard.**
- *Adam* ⇒ **la .adam.**
- *Lucas* ⇒ **la .lukas.**

Notes:

- Two additional full stops (periods) are necessary because if you don't put those pauses in speech, it might become difficult to know where the name starts and ends, or in other words, where the previous word ends and the next word begins.
- The last letter of a cmevla must be a consonant. If a name doesn't end in a consonant, we usually add an **s** to the end; so in Lojban, *Mary* becomes **.meris.**, *Joe* becomes **.djos.**, and so on. Alternatively, we can leave out the last vowel, so *Mary* would become **.mer.** or **.meir**.
- You can also put a full stop between a person's first and last names (though it's not compulsory), so *Jim Jones* becomes **.djim.djonz.**

Task

Complete the table by adapting these names according to Lojban rules:

Mary	**la .meris.** or **la .mer.**
Susan	**la .suzyn.**
Harry	**la .xaris.** or **la .aris.**
Kevin Johnson	**la .kevin.djonson.**
Joe	**la .djos.**

Rules for making le cmevla

Here is a compact representation of Lojban sounds:

- vowels:
  - **a e i o u y au ai ei oi**
- consonants:
  - **b d g v z j** (voiced)
  - **p t k f s c x** (unvoiced)
  - **l m n r**
  - **i u**. They are considered consonants when placed between two vowels or at the beginning of a word. **iaua** — **i** and **u** are consonants here. **iai** — here is the consonant **i** with the vowel **ai** after it.
  - **'** (apostrophe). It is placed only between two vowels: **.e'e**, **.u'i**
  - **.** (dot, word break)

To create a Lojban name, follow these rules:

1. the name must end in a consonant except '. If not, add a consonant at the end yourself. Additionally, wrap it with a dot from each side: **.lojban.**.
2. vowels can only be placed between two consonants: **.sam.**, **.no'am.**
3. double consonants are merged into one: *dd* becomes **d**, *nn* becomes **n** etc. Or a **y** is placed between them: **.nyn.**
4. if a voiced and an unvoiced consonants are next to each other, insert a **y** between them: **kv** becomes **kyv**. Alternatively, you can remove one of the letters instead: **pb** can be turned into a single **p** or a single **b**.
5. if one of **c**, **j**, **s**, **z** are next to each other, insert a **y** between them: **jz** becomes **jyz**. Alternatively, you can remove one of the letters instead: **cs** can be turned into a single **c** or a single **s**.
6. if **x** is next to **c** or next to **k**, insert a **y** between them: **cx** becomes **cyx**, **xk** becomes **xyk**. Alternatively, you can remove one of the letters instead: **kx** can be turned into a single **x**.
7. the substrings **mz**, **nts**, **ntc**, **ndz**, **ndj** are fixed by adding a **y** inside or deleting one of the letters: **nytc** or **nc**, **.djeimyz.**

8. double **ii** between vowels is merged into a single **i**: **.eian.** (but not **.eiian.**)
9. double **uu** between vowels is merged into a single **u**: **.auan.** (but not **.auuan.**)
10. the sound for the English "h" as in Harry can be either dropped or replaced with **x**. *Harry* can become **.aris.** or **.xaris.**

Relation words as names

You can select an enjoyable nickname in Lojban by using not only cmevla but also relation words. You can also translate your present name into Lojban if you know what it means, or choose a completely new Lojban name.

Here are a few examples:

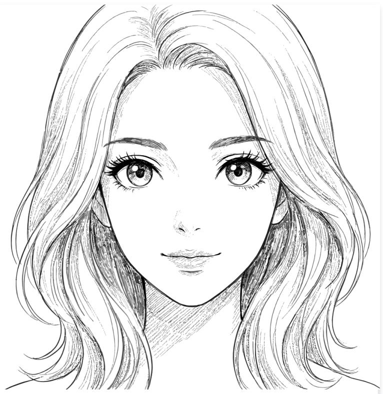
Original name	Original meaning	Word in Lojban	Meaning in Lojban	Your name
Alexis	*helper* in Greek	**le sidju**	*the helper*	**la sidju**
Ethan	*solid, during* in Hebrew	**le sligu**	*the solid*	**la sligu**
Mei Li	*beautiful* in Mandarin Chinese	**le melbi**	*the beautiful ones*	**la melbi**

‘*he*’ ‘*she*’

Lojban doesn't have distinct words for *he* or *she*. Possible solutions:

le ninmu ≈ *the woman (in gender sense)*

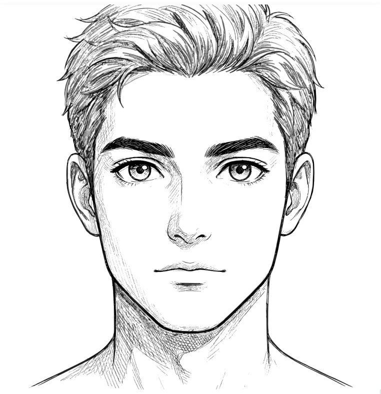
le nanmu ≈ *the male man (in gender sense)*



le ninmu
the woman (female human)

> **le ninmu cu tavla le nanmu .i le ninmu cu jatna**
> *The woman talk to the man. She is a leader.*

jatna ≈ *… is a leader, commander*



le nanmu
the man (male human)

Lojbanists have proposed various words for other genders like

le nonmu ≈ *the agender person*
le nunmu ≈ *the non-binary-gendered person*

However, in most situations, using **le prenu** (*the person*) or personal names is sufficient.

Another choice is to use the short pronoun **ri**, which refers to the previous argument term:

> **mi pu klama le nurma .i ri melbi**
> *I went to the countryside. It was beautiful.*

le nurma ≈ *the rural area*
melbi ≈ *… is beautiful, nice to … (someone)*

Here, **ri** refers to the country side.

> **mi tavla le pendo .i ri jundi**
> *I talk to the friend. He/she is attentive.*

jundi ≈ *… is attentive*

Here, **ri** refers to the friend.

nurma
… is a rural area

Note: **ri** skips pronouns **mi** (*I*) and **do** (*you*):

> **le prenu cu tavla mi .i ri pendo mi**
> *The person talks to me. He/she is a friend of mine.*

Here, **ri** skips the previous pronoun **mi** and thus refers to **le prenu** which is the preceding argument term available.

le gerku cu jundi
The dog is attentive.

Other two similar pronouns are **ra** and **ru**.

ra ≈ *refers to a recently used argument term*
ru ≈ *refers to an even earlier used argument term*

> **le pendo pu klama le nurma .i ri melbi ra**
> *The friend went to the countryside. The countryside was beautiful to her/him.*

Here, since **ri** is used **ra** has to refer to a more recent completed argument term, which for this isolated example is **le pendo**. Arguments like **mi** and **do** are also skipped by **ra**.

If **ri** is not used then **ra** can refer even to the last completed argument:

> **le pendo pu klama le nurma .i ra melbi ru**
> *The friend went to the countryside. The countryside was beautiful to her/him.*

ra is more convenient when you are lazy and context would resolve reference anyway.

Introducing yourself. Vocatives

In Lojban, *vocatives* are words that behave like interjections (such as **xu** which we earlier discussed), but they require an argument to be attached to the right of them:

> **coi do**
> *Hello, you!*

coi ≈ *vocative: Hello! Hi!*

We use **coi** followed by an argument term to greet someone.

coi do
Hello to you!

> **co'o do**
> *Goodbye to you.*

co'o ≈ *vocative: goodbye!*

> **coi ro do**
> *Hello everyone!*
> `Hello each of you`

— is how people usually start a conversation with several people. Other numbers are possible of course: **coi re do** means *Hello you two* etc.

co'o do
Good-bye to you!

Since vocatives work like interjections we have nice types of greetings:

cerni coi

Good morning!

`It's morning — Hello!`

vanci coi

Good evening!

donri coi

Good day!

nicte coi

Nightly greetings!

Note: in English *Goodnight!* means *Goodbye!* or denotes wishing someone a good night. By its meaning, *Goodnight!* doesn't belong to the series of greetings above. Thus, we use different wording in Lojban:

nicte co'o

Good night!

or

.a'o pluka nicte

Pleasant night!

.a'o ≈ *interjection: I hope*
pluka ≈ *... is pleasant to ... (someone)*

Of course, we can be vague by just saying **pluka nicte** (just meaning *pleasant night* without any wishes explicitly said).

The vocative **mi'e** + an argument is used to introduce yourself:

mi'e la .doris.

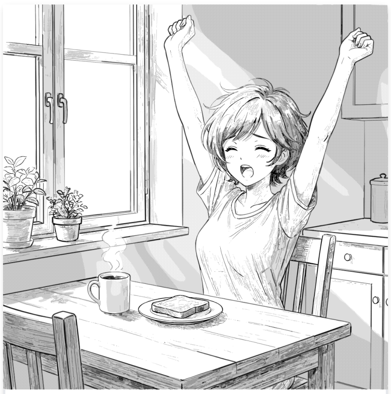
I'm Doris. This is Doris speaking.

mi'e ≈ *vocative: identifies speaker*

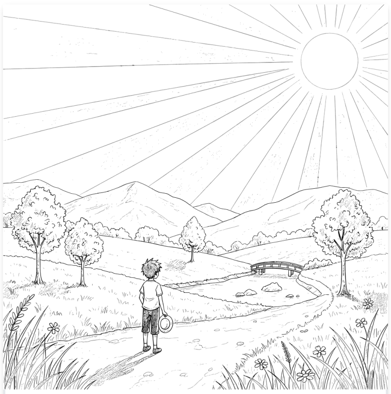
The vocative **doi** is used to address someone directly:

mi cliva doi la .robert.

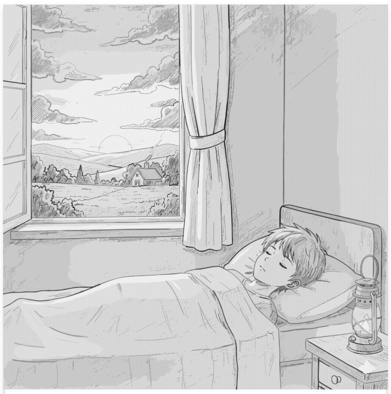
I'm leaving, Robert.



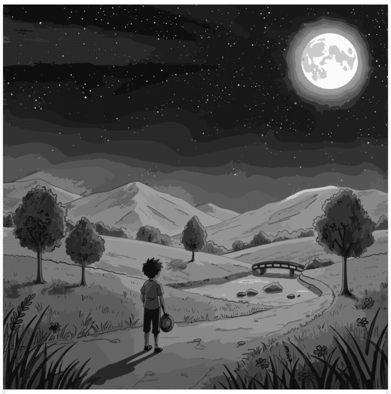
cerni
... is morning



donri
... is daylight time



vanci
... is evening



nicte
... is nighttime

cliva ≈ *to leave (something or someone)*

Without **doi**, the name might fill the first argument of the relation:

> **mi cliva la .robert.**
> *I'm leaving Robert.*

doi is a like Old English *O* (as in *O ye of little faith*) or the Latin vocative (as in *Et tu, Brute*). Some languages don't distinguish between these contexts, although as you can see, Old English and Latin did.

Two more vocatives are **ki'e** for saying thanks and **je'e** for accepting them:

> **— ki'e do do pu sidju mi**
> **— je'e do**
> *— Thank you, you helped me.*
> *— Not at all.*

sidju ≈ *... helps ... (someone)*

We can omit the argument after the vocative only at the end of the sentence. For example, we can just say:

> **— coi .i xu do kanro**
> *— Hello. How do you do?*
> `— Hello. Are you healthy?`

kanro ≈ *... is healthy*

Here, a new sentence starts immediately after the vocative **coi**, so we omitted the name. Or we can say:

> **coi do mi djica le nu do sidju mi**
> *Hello. I want you to help me.*
> `Hello you. I want that you help me.`

Thus, if you don't know the name of the listener and you want to continue the same sentence after the vocative, you just place **do** after it.

If you use the vocative on its own (without an argument after it) and the sentence is not finished yet, then you need to separate it from the rest. This is because the things that are most likely to follow the vocative in a sentence could easily be misconstrued as describing your addressee. To separate it from the following argument, use the word **do**. For example,

> **coi do la .alis. la .doris. pu cliva**
> *Hello! Alice left Doris.*
> `Hello you! Alice left Doris`

> **coi la .alis. la .doris. pu cliva**
> *Hello, Alice! Doris left.*

And if you want to put both vocatives and interjections, modifying the whole sentence please put the interjections first:

> **.ui coi do la .alis. la .doris. pu cliva**
> *Yay, Hello! Alice left Doris.*

Note: in the beginning of a sentence, interjections are usually put before vocatives because:

> **coi .ui do la .alis. la .doris. pu cliva**
> means

> *Hello (I'm happy about this greeting) you! Alice left Doris.*

So an interjection immediately after a vocative modifies that vocative. Similarly, an interjection modifies the argument of a vocative when being put after it:

> **coi do .ui la .alis. la .doris. pu cliva**
> *Hello you (I'm happy about you)! Alice left Doris.*

Task

Close the right part of the table. Translate from Lojban:

coi do mi viska do	*Hello, I see you.*
mi'e la .alis.	*I'm Alice.*
— ki'e do .i do pu sidju mi **— je'e do**	*— Thank you, you helped me.* *— You're welcome.*

Close the right part of the table. Translate to Lojban:

Goodbye!	**co'o do**
Hello, my friend!	**coi le pendo**
Good morning! I'm Bob.	**cerni coi .i mi'e la .bab.**

Lesson 2. More basic stuff

Types of words

Lojban words are divided into three groups:

- Relation words (called **selbrivla** in Lojban)
    - Examples: **gleki**, **klama**.
    - Such words contain at least a cluster of consonants (two or more consonants one after another) within the first 5 sounds + they end in a vowel.
- Particles (called **cmavo** in Lojban)
    - Examples: **le**, **nu**, **mi**, **fa'a**.
    - They start with a consonant (one of **b d g v z j p t k f s c x l m n r i u**), followed by a vowel (one of **a e i o u y au ai ei oi**). Optionally, after that, there can be one or more sequences of an apostrophe (') and a following vowel. For example, **xa'a'a'a'a'a'a** and **ba'au'oi'a'e'o** are possible particles (even if no meaning is assigned to them).
    - It is quite common to write several particles consecutively without spaces between them. This is allowed by Lojban grammar. So, don't be surprised to see **lenu** instead of **le nu**, **naku** instead of **na ku**, **jonai** instead of **jo nai**, and so on. This doesn't change the meaning. However, this rule does not apply to relation words; relation words should be separated by spaces.
- Name words (called **cmevla** in Lojban)
    - Examples: **.alis.**, **.doris**, **.lojban.**
    - Usually used for personal names, names of places etc.
    - They can be easily distinguished from the other types of words since they end in a consonant. Additionally, they are wrapped with two dots at the beginning and at the end. Colloquially, dots can be omitted when writing, but when speaking, pauses that correspond to those dots are still a must.

Task

Close the right part of the table. Try to identify the type of each Lojban word using rules just described.

le	particle (starts with consonant followed by vowel)
melbi	relation word (contains consonant cluster 'lb')
.paris.	name word (ends in consonant, has dots around it)
mi'o	particle (contains apostrophe between vowels)

Order of arguments

Earlier we had definitions of relation words such as:

mlatu ≈ *… is a cat, to be a cat*
citka ≈ *… eats …*
prami ≈ *… loves …*
klama ≈ *… come to …*

Dictionaries can present definitions of relation words with symbols such as x_1, x_2 etc.:

prami ≈ *x_1 loves x_2*
karce ≈ *x_1 is a car …*
citka ≈ *x_1 eats x_2 …*
klama ≈ *x_1 comes to x_2 …*

These x_1, x_2, and so on is the explicit notation for the so called *slots* (other names are: *places*, *roles of relation*, **terbricmi** in Lojban). Slots are filled by argument terms (**sumti**) in the sentence.

Numbers represent the order in which those slots are to be filled by arguments.

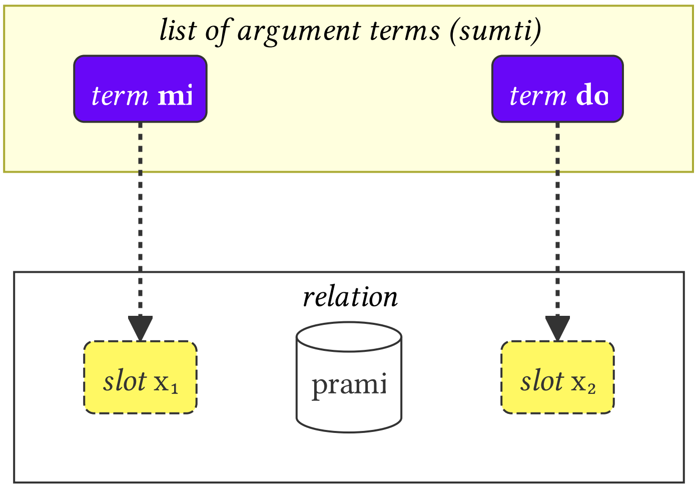
For example:

> **mi prami do**
> *I love you.*

This sentence also implies that

- x_1 denotes *the one who loves*, and
- x_2 denotes *the one who is loved by*.

In other words, each relation has one or more slots, and those slots are specified and labeled as x_1, x_2, and so on. We put arguments like **mi**, **do**, **le tavla** etc. in order, thus filling these slots and giving a concrete meaning to the relation, thus forming a sentence.



The advantage of such style of definitions is that it contains all possible participants of a relation immediately specified.

We can also omit arguments making the sentence more vague:

> **carvi**
>
> *It is raining.*
>
> `is rain, is raining`

(although time here is determined by context, it can also mean *It often rains*, *It was raining*, etc.)

> **prami do**
>
> *Someone loves you.*
>
> `loves you`

All omitted places in a relation just mean **zo'e** = *something/someone* so it means the same as

> **zo'e prami do**
>
> *Someone loves you.*

And

> **prami**

is the same as

> **zo'e prami zo'e**
>
> *Someone loves someone.*

zo'e ≈ *pronoun: something or someone unspecified or assumed from context*

Modal terms like **ca**, **fa'a** etc. add new places to relations, but they don't fill slots of relations. In

> **mi klama fa'a do**
>
> *I come towards you.*

the second place of **klama** is still omitted. For example:

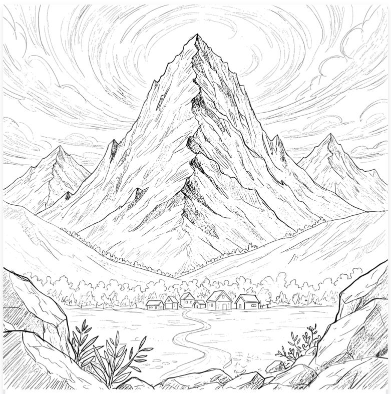
> **mi klama fa'a le cmana le zdani**
>
> *I come (in the direction of the mountain) to the home.*

le cmana ≈ *the mountain*

Here, the second place of **klama** is **do**. The sentence means that the mountain is just a direction, whereas the final point is you.

Here, the term **fa'a la cmana** (*in the direction of the mountain*) doesn't replace the second place of the relation **klama**. The second place of **klama** is **le zdani** here.

The sentence means that my home is simply located in the direction of the mountain, but it doesn't necessarily mean I want to reach that mountain. The final destination of me coming is not the mountain but the home.



cmana
... is a mountain

Similarly, in

> **mi citka ba le nu mi cadzu**
> *I eat after I walk.*

the second place of **citka** is still omitted. A new term **ba** with its argument **le nu mi cadzu** adds meaning to the sentence.

The order of arguments of compound relation is the same as the one of the last component in it:

> **tu sutra bajra pendo mi**
> *That is my quickly running friend.*
> `That is a quickly running friend of me.`

> **tu pendo mi**
> *That is my riend.*
> `That is a friend of me.`

pendo ≈ *... is a friend of ... (someone)*

So the order of arguments of **sutra bajra pendo** is the same as that of **pendo** alone.

Task

Close the right part of the table. For each relation word, identify which place structure is correct.

klama	x_1 comes to x_2 from x_3
prami	x_1 loves x_2
karce	x_1 is a car
citka	x_1 eats x_2

More than two places

Relation can have more than two places. For example:

> **mi pinxe le djacu le kabri**
> *I drink the water from the cup.*

pinxe ≈ x_1 *drinks* x_2 *from* x_3

> **le kabri**
> *the cup*

In this case, there are three places, and if you want to exclude the second place in the middle, you have to use **zo'e**:

> **mi pinxe zo'e le kabri**
> *I drink [something] from the cup.*

If we omit **zo'e**, we get something meaningless:

> **mi pinxe le kabri**
> *I drink the cup.*

Another example:

> **mi plicru do le plise**
> *I give you the apples.*

plicru ≈ x_1 *gives, donates to* x_2 *some object* x_3*;* x_1 *allows someone* x_2 *to use* x_3

Task

zgana ≈ x_1 *observes/notices* x_2 *using senses* x_3
le kanla ≈ *the eye, the eyes*

Close the right part of the table. Translate the sentences on the left from Lojban.

mi zgana do le kanla	*I observe you with my eyes.*
mi pinxe le djacu le kabri	*I drink the water from the cup.*
mi plicru do le plise	*I give to you the apple.*

Close the right part of the table. Translate the sentences on the left to Lojban.

I drink coffee from the glass.	**mi pinxe le ckafi le kabri**
I give to the child the apple.	**mi plicru le verba le plise**

Relations inside relations

In

> **le nicte cu nu mi viska le lunra**
> *The night is when I see the Moon.*

we have

- **le nicte** as x_1 of the relation,
- **nu mi viska le lunra** as the main relation.

However, inside **nu mi viska le lunra**, we have another sentence with

- **mi** - x_1 of the inner relation,
- **viska** - the inner relation,
- **le lunra** - x_2 of the inner relation.

So, despite having an inner structure, **nu mi viska le lunra** is still a relation with its first term filled with **le nicte** in this case.

Similarly, in

> **mi citka ba le nu mi dansu**
> *I eat after I dance.*

we have

- **mi** as x_1, the first place of the relation,

- **citka** as the main relation construct,
- **ba le nu mi dansu** as a modal term of the main relation of the sentence.

Inside this term, we have:

- **mi** as x_1, the first place of the relation inside the term
- **dansu** as the main relation construct inside the term.

Such "recursive" mechanism of wrapping relations into relations allows expressing complex ideas precisely.

Task

Close the right part of the table. Identify which terms belong to inner relations.

le nicte cu nu mi viska le lunra	Inner relation: *mi viska le lunra* (I see the moon)
mi citka ba le nu mi dansu	Inner relation: *mi dansu* (I dance)
mi djica le nu do klama	Inner relation: *do klama* (you come)

Why are relation words defined the way they are?

English uses a limited set of prepositions that are reused across various verbs and, thus, have no fixed meaning. For example, consider the English preposition *to*:

> *I speak to you.*

> *I come to you.*

> *To me it looks pretty.*

In each of those examples, *to* has a new role that is, at best, remotely similar to roles in other sentences.

It's important to note that other languages use different ways of marking roles of verbs that, in many cases, are very different from those used in English.

Lojban, for instance, marks core roles (slots) of relations by fully defining such relations with the roles placed in sequence (or marked with **fa**, **fe**, and so on):

klama ≈ *x_1 comes to x_2 …*
tavla ≈ *x_1 talks to x_2 …*
melbi ≈ *x_1 is beautiful, pretty to x_2 …*

Such core roles are essential in defining relations.

However, there can be optional roles that make relations more precise:

> *I speak to you while I'm eating.*

> *It's hard to me because this thing is heavy.*

In Lojban, a similar notion of such optional roles is expressed via separate relations or, for most common cases, with modal terms:

> **mi tavla do ze'a le nu mi citka**
> *I speak to you while I'm eating.*

> **nandu mi ri'a le nu ti tilju**
> *It's hard to me because this thing is heavy.*

nandu ≈ x_1 *is hard to* x_2
tilju ≈ x_1 *is heavy*

Prepositions in English are similar to modal particles in Lojban, although a usual English preposition can have many meanings while in Lojban, every modal particle has only one (even if vague) meaning.

Task

le zarci ≈ *the market*
le dinju ≈ *the building*
klama ≈ x_1 *comes to* x_2 *from* x_3

Close the right part of the table. Identify whether these sentences use core arguments or optional modal terms.

mi klama le zarci le dinju	Uses core arguments (x_2 and x_3 of klama)
mi klama le zarci ca le nu do pinxe	Uses core argument (x_2 = le zarci) and modal term (ca le nu do pinxe)
mi klama fa'a le zarci	Uses modal term (fa'a le zarci) instead of core argument

General rules in the order of arguments

The order of places in relations might be sometimes hard to remember, but let's not worry — you don't need to remember all the places of all relation words. (Do you remember the meaning of hundreds of thousands of words in English?)

You may study places when you find them useful or when people use them in a dialogue with you.

Most relation words have two-three places.

Usually, you can guess the order using context and a few rules of thumb:

1. The first place is often the person or thing that does something or is something:

   klama = x_1 *goes …*

2. The object of some action is usually just after the first place:

   punji = x_1 *puts* x_2 *on* x_3,

3. And the next place will usually be filled with the recipient:

   punji = x_1 *puts* x_2 *on* x_3,

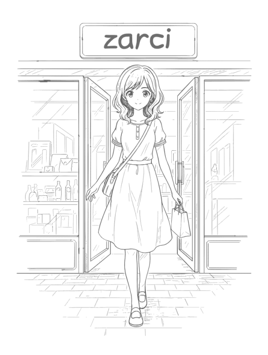
4. Destination (*to*) places nearly always come before origin (*from*) places:

   klama = x_1 *goes to* x_2 *from* x_3

5. Less-used places come towards the end. These tend to be things like *by standard*, *by means* or *made of.*

The general idea is that first come the places which are most likely to be used.

No need to fill all places all the time. Unfilled places just have values irrelevant or obvious to the speaker (they take the value of **zo'e** = *something*).



le prenu cu klama fi le zarci
The person goes out of the shop.

Task

dunda ≈ x_1 *gives* x_2 *to* x_3
benji ≈ x_1 *transfers* x_2 *to* x_3 *from* x_4
lebna ≈ x_1 *takes* x_2 *from* x_3

Close the right part of the table. Predict which place comes next in these relations based on the general rules.

dunda - "the giver ___, the gift ___, the recipient ___"	The order follows the rule: doer first, then object, then recipient
benji - "the sender ___, the sent thing ___, destination ___, source ___"	The order follows the rule: doer first, object second, destination before source
lebna - "the taker ___, the taken thing ___, source ___"	The order follows the rule: doer first, object second, source last

Infinitives

Infinitives are verbs that are often prefixed with *to* in English. Examples include *I like to run*, with *to run* being the infinitive.

> **le verba cu troci le ka cadzu**
> *The child is trying to walk.*

le verba ≈ *the child, the children*
troci ≈ *x_1 tries to do or to be x_2 (ka)*
cadzu ≈ *x_1 walks*

The particle **ka** works much like **nu**. It wraps a sentence.

The main difference is that some slot in the wrapped sentence is to be linked by some argument outside this sentence.

In this case the first argument **le verba** of the relation **troci** makes a link to the first unfilled slot of the inner sentence **cadzu** (which is inside **ka**).

In other words, the child tries to achieve a state where **le verba cu cadzu** (the argument **le verba** would fill the first unfilled slot of the relation **cadzu**).

le verba cu troci le ka cadzu
The child tries to walk.

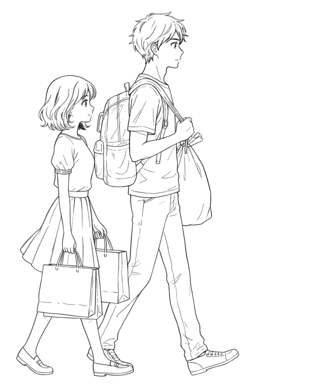
Some relations require only infinitives in some of their slots. Definitions of such words mark such slots as *property* or **ka**. For example:

cinmo ≈ *x_1 feels x_2 (ka)*

This means that the infinitive in the second slot (x_2) is applied to some other slot (most likely, the first slot, x_1). Cases where the infinitive is applied to slots other than x_2 are rare and are explained in dictionaries for corresponding relations or in the case of relation words invented unofficially, can be deduced from common sense by analogy with other similar relation words.

Another example:

> **ra sidju le pendo le ka bevri le dakli**
> *He/she helps the friend to carry the bags.*



ra sidju le pendo le ka bevri le dakli
He/she helps the friend to carry the bags.

sidju ≈ *x_1 helps x_2 do x_3 (ka)*

The relation word **sidju** requires its third slot to be filled with an infinitive.

bevri ≈ *x_1 carries x_2*
le dakli ≈ *the bag, the bags*

Note that only the first unfilled place of the embedded relation takes the meaning of the outer place:

> **mi troci le ka do prami**
> *I try to be loved by you.*

Here, the first unfilled place is the second place of **prami**, thus it takes the value **mi** (*I*).

It is also possible by using the pronoun **ce'u** to explicitly mark a place that has to be applied to some outer argument:

> **mi troci le ka do prami ce'u**
> *I try to be loved by you.*

Another example:

> **mi cinmo le ka xebni ce'u**
> **mi cinmo le ka se xebni**
> *I feel like someone hates me.*
> *I feel being hated.*

Task

zgana ≈ *x_1 observes x_2*
kakne ≈ *x_1 is able to do x_2 (property)*
nelci ≈ *x_1 likes x_2*

Close the right part of the table. Convert these sentences with infinitives to their meanings.

mi kakne le ka zgana	I am able to observe (something)
do kakne le ka nelci mi	You are able to like me
mi nelci le ka zgana do	I like observing you

Types of places

The dictionary often mentions other types of places, for example:

djica ≈ *x_1 wants x_2 (event)*

This *event* means that you have to fill the place with an argument that represents an event. For instance:

le nicte ≈ *nighttime*
le nu mi dansu ≈ *me dancing*

So we get

> **mi djica le nicte**
> *I want the nighttime event.*

> **do djica le nu mi dansu**
> *You want me to dance.*

In Lojban, it is not allowed to say, for example:

> **mi djica le plise**
> *I want the apple.*

because you want to do something with the apple or you want some event happening with the apple, such as:

> **mi djica le nu mi citka le plise**
> *I want to eat the apple.*
> `I want that I eat the apple.`

Notice that wrapping a relation expecting an event into a **nu** changes the meaning:

> **le zekri cu cumki**
> *The crime is possible.*

zekri ≈ *x_1 is a criminal event, x_1 (event) a crime*
cumki ≈ *x_1 (event) is possible*

Compare:

> **le nu zekri cu cumki**
> `That is criminal is possible.`
>
> \>
>
> *It is possible that something is a crime.*

Task

nelci ≈ *x_1 likes x_2*
djica ≈ *x_1 wants x_2 (event)*
cisma ≈ *x_1 smiles*

Close the right part of the table. Translate the sentences on the left from Lojban.

mi nelci le nu do cisma	*I like that you smile.*
mi djica le nu mi citka le plise	*I want to eat the apple.*
mi na ku djica le plise	*I don't want the apple. (incorrect usage)*

Close the right part of the table. Translate the sentences on the left to Lojban.

I want you to dance.	**mi djica le nu do dansu**
I like that you are smart.	**mi nelci le nu do stati**

Raising

> **mi stidi le ka klama le barja**
> *I suggest going to the pub.*

stidi ≈ *x_1 suggest action x_2 (property) to x_3*

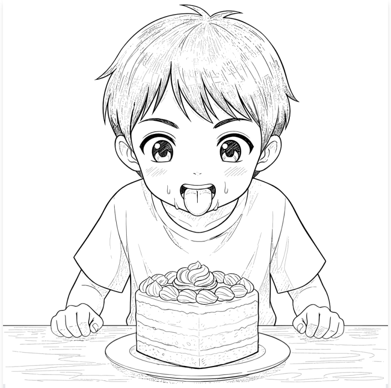
> **mi stidi tu'a le barja**
> *I suggest the pub.*

tu'a le barja ≈ *something about the pub*

> **mi djica le nu mi citka le plise**
> *I want to eat an apple.*

> **mi djica tu'a le titla**
> *I want the sweet food.*

tu'a le titla ≈ *something about the sweet food*
titla ≈ *... is sweet*



le prenu cu djica tu'a le titla
The person wants the sweet food.

Place structure may put too much burden on specifying actions or events. Sometimes we want to specify only some object in those events or places and skip describing the action or the event altogether.

In the examples above *I suggest the pub.* most likely implies going to the pub and *I want the apple.* implies eating it.

However, the Lojban relation word **stidi** requires a property in its x_2 slot. Similarly, **djica** requires an event in its x_2 slot.

The short so called qualifier word **tu'a** before a term implies an abstraction (property, event, or proposition) but selects only this term from this abstraction skipping the rest. It can be vaguely translated as *something about*:

> **mi stidi tu'a le barja**
> *I suggest something about the pub (maybe visiting it, meeting near it etc.).*

> **mi djica tu'a le plise**
> *I desire something related to the apple (perhaps eating, chewing, licking, throwing it at a friend, etc.)*

> **tu'a le cakla cu pluka mi**
> *The chocolate is pleasing to me (likely due to its taste).*
> `Something about the chocolate is pleasant to me`

cakla ≈ *x_1 is some chocolate*

When skipping abstractions, only context tells us what was omitted.

It is also possible to modify the main relational construct:

> **le cakla cu jai pluka mi**
> **tu'a le cakla cu pluka mi**
> *The chocolate is pleasing to me.*

This allows for the creation of vague argument terms with **jai**:

> **le jai pluka cu zvati ti**
> *The pleasurable thing is here.*

Since **le pluka** (*the pleasant event*) is abstract, it's impossible to specify its location. However, a participant in the abstraction can be physically placed somewhere.

Task

stidi ≈ *x_1 suggests x_2 (property) to x_3*

Close the right part of the table. Translate the sentences on the left from Lojban.

mi stidi tu'a le karce	*I suggest something about the car.*
mi djica tu'a le najnimre	*I want something about the orange.*
mi nelci tu'a le mlatu	*I like something about the cat.*

Close the right part of the table. Translate the sentences on the left to Lojban.

I suggest the garden (something about it).	**mi stidi tu'a le purdi**
I want the book (something about it).	**mi djica tu'a le cukta**

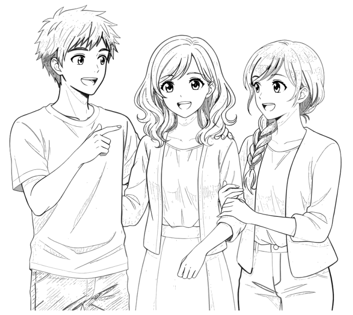
Places inside arguments

How do we say *You are my friend*?

> **do pendo mi**
> *You are my friend.*
> `You are a friend of me.`

And now, how do we say *My friend is smart.*?

> **le pendo be mi cu stati**
> *My friend is smart.*



le pendo
the friend / the friends

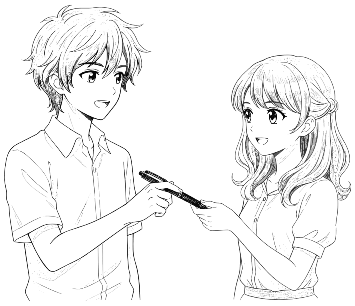
So when we convert a relation into an argument (**pendo** — *to be a friend* into **le pendo** — *the friend*), we can still retain other places of that relation by placing **be** after it.

By default, it attaches the second place (x_2). We can attach more places by separating them with **bei**:

> **mi plicru do le plise**
> *I give you the apple.*

> **le plicru be mi bei le plise**
> *The grantor of the apple to me*

> **le plicru be mi bei le plise cu pendo mi**
> *The giver of the apple to me is my friend.*
> `The one who gives me the apple is a friend of mine.`



le prenu cu plicru le pendo le tutci
The person gives to the friend the utensil.

Another example:

> **mi klama le pendo be do**
> *I come to a friend of yours.*

klama ≈ x_1 *comes to* x_2 *from* x_3 ...

We can't omit **be** because **le pendo do** are two independent places:

> **mi klama le pendo do**
> *I come to a friend from you.*

Here, **do** took the third place of **klama** since it's not bound to *pendo* via **be**.

Neither could we use **nu** because **le nu pendo do** is the event of someone being a friend of yours.

So **le pendo be do** is the correct solution.

Another example:

> **la .lojban. cu bangu mi**
> *Lojban is my language.*
> `Lojban is a language of me.`

However,

> **mi nelci le bangu be mi**
> *I like my language.*

Using **be** for relations not converted to arguments has no effect:

> **mi nelci be do**
> is the same as
> **mi nelci do**

Task

ctuca ≈ *x_1 teaches someone x_2 the subject x_3*
cmene ≈ *x_1 is a name of x_2 used by x_3*

Close the right part of the table. Convert these constructions using "be" into their meanings.

le ctuca be mi bei la lojban	the teacher of me in Lojban
le cmene be la paris bei la frank	the name of Paris used by Frank
le ctuca be le verba bei la lojban	the teacher of children in Lojban

Relative clauses

> **le prenu poi pendo mi cu tavla mi**
> *The person that is friend of mine talks to me.*

> **le prenu noi pendo mi cu tavla mi**
> *The person, who incidentally is a friend of mine, talks to me.*

In the first sentence, the word *that* is essential to identifying the person in question. It clarifies whom among the people in the context we are talking about. We choose only those who are my friends out of probably many people around. Maybe there is only one person around that is my friend.

As for *who is incidentally a friend of mine* from the second sentence, it just provides additional information about the person. It doesn't help us identify the person. For example, this might happen when all the people around are my friends.

poi pendo mi is a relative clause, a relation attached to the right of the argument **le prenu**. It ends just before the next word **cu**:

> **le prenu (poi pendo mi) cu tavla mi**
> *The person that is friend of mine talks to me.*

In Lojban, we use **poi** for relative clauses that identify entities (objects, people or events) and **noi** for incidental information.

> **la .bob. ba co'a speni le ninmu poi pu xabju le nurma**
> *Bob will marry a girl who lived in the country.*

xabju ≈ *... lives in ..., ... inhabits ... (place, object)*
le nurma ≈ *the rural area*

This sentence doesn't exclude Bob marrying someone else as well! Removing the relative clause with **poi** changes the meaning:

> **la .bob. ba co'a speni le ninmu**
> *Bob will marry a girl.*

speni ≈ x_1 *is married to* x_2

Another example:

> **le prenu poi gleki cu ze'u renvi**
> *People (which ones?) who are happy live long.*

ze'u ≈ *modal term: for a long time*
renvi ≈ *to survive*

Removing the relative clause with **poi** changes the meaning:

> **le prenu ze'u renvi**
> *The people live long.*

On the other hand, relative clauses with **noi** contain just additional information about the argument, to which they are attached. That argument is sufficiently defined by itself so that removing a relative clause with **noi** doesn't change its meaning:

> **mi nelci la .doris. noi mi ta'e zgana bu'u le panka**
> *I like Doris whom I habitually see in the park.*
> *I like Doris. What else can I say about her? I habitually see her in the park.*

zgana ≈ *to observe (using any senses)*

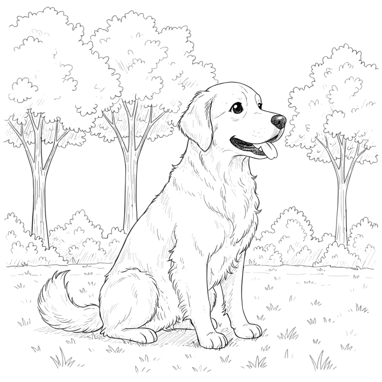
Removing the relative clause with **noi** retains the meaning: *I like Doris.*

In spoken English, the distinction is often achieved using intonation or by guessing. Also, relative clauses with **noi** are traditionally separated with commas in English. They use *which* or *who*, and the word *that* is not used in them.

Let's have another example.

> **mi klama le pa tricu**
> *I come to the tree.*

> **le pa tricu cu barda**
> *The tree is big.*



le gerku noi mi ta'e zgana bu'u le panka
The dog whom I habitually see in the park.

le pa tricu ≈ *the tree (one tree)*
barda ≈ *x_1 is big/large*

And now let's join those two sentences:

> **le tricu noi mi klama ke'a cu barda**
> *The tree, to which I come, is big.*

Note the word **ke'a**. We move the second sentence about the same tree into a relative clause and replace the argument **le tricu** with **ke'a** in the relative clause. So the pronoun **ke'a** is like *who* and *which* in English. It points back to the argument to which the relative clause is attached.

So literally our Lojbanic sentence sounds like

> *The tree, such that I go to which, is big.*

ke'a can be dropped if context is sufficient enough. The two following sentences mean the same:

> **le prenu poi pendo mi cu tavla mi**
> **le prenu poi ke'a pendo mi cu tavla mi**
> *The person that is friend of mine talks to me.*

ke'a is often assumed to go to the first unfilled place:

> **mi nelci la .doris. noi mi ta'e zgana bu'u le panka**
> **mi nelci la .doris. noi mi ta'e zgana ke'a bu'u le panka**
> *I like Doris whom I habitually see in the park.*

Here, **mi** fills the first slot of the relation **ta'e zgana** (… *habitually sees* …), thus, **ke'a** is assumed for the next, second place.

Relative clauses like usual relations can contain constructs with modal terms:

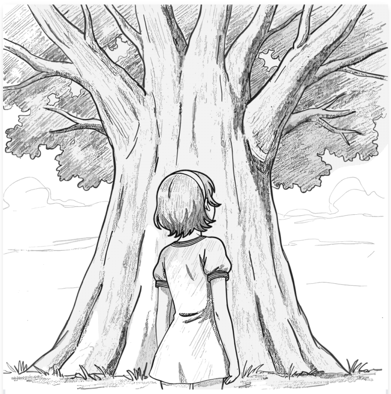
> **le tricu noi mi pu klama ke'a ca le cabdei cu barda**
> *The tree, to which I went today, is big.*

le cabdei ≈ *the day of today*

Note that **ca le cabdei** belongs to the relative clause. Compare:

> **le tricu noi mi pu klama ke'a cu barda ca le cabdei**
> *The tree, to which I went, is big today.*

The meaning has changed a lot.



le tricu cu barda
The tree is big.

Finally, **voi** is used to form **le**-like arguments but with relative clauses:

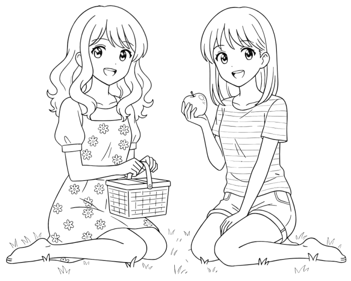
> **ti voi le nu ke'a cisma cu pluka mi cu zutse tu**
> *These ones whose smile pleases me are sitting down.*

ti ≈ *this one near me, these ones near me*
cisma ≈ *x_1 smiles*
pluka ≈ *x_1 is pleasant to x_2*
zutse ≈ *x_1 sits, is sitting on x_2*

Here, **voi** defines the object near me.

Compare it to:

> **ti poi le nu ke'a cisma cu pluka mi cu zutse**
> *Of these ones those whose smile pleases me are sitting down.*



mi nelci ti voi le nu ke'a cisma cu pluka mi
I like these whose smiles pleases me.

poi restricts the selection to those described in the relative clause. This example might imply that there are many objects (people etc.) around me but with **poi** I select only necessary ones.

Compare it to:

> **ti noi le nu ke'a cisma cu pluka mi cu zutse**
> *These ones (who are incidentally such that their smile pleases me) are sitting down.*

noi simply adds incidental information that is not necessary to determine what **ti** (*these ones*) refers to. Perhaps, there is nobody else around to describe.

Finally, just like **nu** has the right border marker **kei**, we have

ku'o ≈ *right border marker for **poi**, **noi** and **voi**.*

> **mi tavla la .doris. noi ca zutse tu ku'o .e la .alis. noi ca cisma**
> *I talk to Doris, who is now sitting over there, and Alice who now smiles.*

Notice that without **ku'o** we would have **tu** (*over there*) joined together with **la .alis.** (*Alice*) leading to a weird meaning:

> **mi tavla la .doris. noi ca zutse tu .e la .alis. noi ca cisma**
> *I talk to Doris, who is now sitting over there and on top of Alice (who now smiles).*

Notice the **zutse tu .e la .alis.** part.

For all of **poi**, **noi** and **voi** the right border marker is still the same: **ku'o**.

Task

ctuca ≈ x_1 *teaches someone* x_2 *the subject* x_3

Close the right part of the table. Translate the sentences on the left from Lojban.

mi tavla le prenu poi ctuca mi	*I talk to the person who teaches me.*
le gerku noi mi nelci ke'a cu citka	*The dog, whom I like, eats.*
le prenu poi ke'a ctuca mi cu stati	*The person who teaches me is smart.*

Close the right part of the table. Translate the sentences on the left to Lojban.

I see the dog that runs.	**mi viska le gerku poi bajra**
The person, who is smart, talks to me.	**le prenu noi stati cu tavla mi**

Short relative clauses. '*About*'

Sometimes, you might need to attach an additional argument to another argument:

> **mi djuno le vajni pe do**
> *I know something important about you.*

le vajni ≈ *something important*

pe and **ne** are similar to **poi** and **noi**, but they attach arguments to arguments:

> **le pa penbi pe mi cu xunre**
> *The pen that is mine is red.*
> (*mine* is essential to identifying the pen in question)

le penbi ≈ *the pen*

> **le pa penbi ne mi cu xunre**
> *The pen, which is mine, is red.*
> (additional information)

ne ≈ *which is about, has relation to … (an argument follows)*
pe ≈ *that is about, has relation to … (an argument follows)*

> **le pa penbi ne mi ge'u .e le pa fonxa ne do cu xunre**
> *The pen, which is mine, and the phone, which is yours, are red.*

ge'u ≈ *right border marker for **pe**, **ne**.*

Task

Close the right part of the table. Translate the sentences on the left from Lojban.

le penbi pe mi cu xunre	*The pen that is mine is red.*
le mlatu ne mi cu melbi	*The cat, which is mine, is beautiful.*
mi tavla le prenu pe do	*I talk to the person related to you.*

Close the right part of the table. Translate the sentences on the left to Lojban.

The house that is mine is big.	**le zdani pe mi cu barda**
The car, which is yours, is beautiful.	**le karce ne do cu melbi**

«**be**» and «**pe**»

Note that relative clauses are attached to arguments, while **be** is a part of the relation.

Actually, **le bangu pe mi** is a better translation of *my language*, since, like in English, the two arguments are related to each other in a vague way.

However, you can say **le birka be mi** as *my arm*. Even if you saw off your arm, it will still be yours. That's why **birka** has a place of the owner:

birka ≈ *x_1 is an arm of x_2*

Let's show once again that a construct with **be** is a part of the relation, whereas **pe**, **ne**, **poi** and **noi** attach to arguments:

> **le pa melbi be mi fonxa pe le pa pendo be mi cu barda**
> `The beautiful to me phone of the friend of mine is big.`

Here, **be mi** is attached to the relation **melbi** = *to be beautiful to … (someone)* and thus creates a new relation **melbi be mi** = *to be beautiful to me*. But **pe le pa pendo be mi** (*of my friend*) is applied to the whole argument **le pa melbi be mi fonxa** (*the beautiful to me phone*).

It can also happen that we need to attach **be** to a relation, transform that relation into an argument and then attach **pe** to that argument:

> **le pa pendo be do be'o pe la .paris. cu stati**
> *The friend of yours who is related to Paris is smart.*
> (**pe la .paris.** is attached to the whole argument **le pa pendo be do be'o**)

> **le pu plicru be do bei le pa plise be'o pe la .paris. cu stati**
> *Who gave you the apple (and who is related to Paris) is smart.*
> (**pe la .paris.** is attached to the whole argument **le pu plicru be do bei le pa plise be'o**)

be'o ≈ *right border marker for the string of terms attached with **be** and **bei***

In these two examples, your friend has some relation to Paris (maybe, he/she is from Paris).

Compare it to:

> **le pa pendo be do pe la .paris. cu stati**
> *The friend of you (you who is related to Paris) is smart.*

> **le pu plicru be do bei le pa plise pe la .paris. cu stati**
> *Who gave you the apple (the apple that is related to Paris) is smart.*

In these last two examples, however, either you are related to Paris or the apple.

Task

Close the right part of the table. Translate the sentences on the left from Lojban.

le melbi be mi fonxa cu barda	*The phone that is beautiful to me is big.*
le fonxa pe mi cu melbi	*The phone that is mine is beautiful.*
le pendo be do cu tavla	*The friend of yours talks.*
le pendo be mi be'o pe la .paris. cu stati	*The friend of mine who is related to Paris is smart.*
le pa melbi be mi fonxa pe le pa pendo be mi cu barda	*The beautiful to me phone of the friend of mine is big.*

Close the right part of the table. Translate the sentences on the left to Lojban.

tuple ≈ *x_1 is a leg of x_2*
clani ≈ *x_1 is long, lengthy*
cinri ≈ *x_1 (event) is interesting to someone x_2*
le cukta ≈ *the book, the books*

Your legs are long.	**le tuple be do cu clani**
The book that is mine is interesting.	**le cukta pe mi cu cinri**
The person related to you is smart.	**le prenu pe do cu stati**
The friend of yours who is related to Paris is smart.	**le pendo be do be'o pe la .paris. cu stati**
The beautiful to me phone of my friend is big.	**le pa melbi be mi fonxa pe le pa pendo be mi cu barda**

‘*Alice is a teacher*’ and ‘*Alice is the teacher*’

In English, the verb *is, are, to be* makes a noun work like a verb. In Lojban, even such concepts as *cat* (**mlatu**), *person* (**prenu**), *house* (**dinju**), *home* (**zdani**) function like verbs (relations) by default. Only pronouns work as arguments.

However, here are three cases:

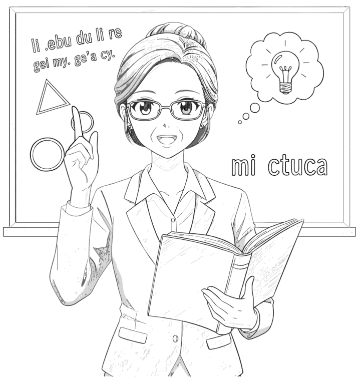
> **la .alis. cu ctuca**
> *Alice teaches.*

> **la .alis. cu me le ctuca**
> *Alice is one of the teachers.*

me ≈ *… is among …, … is one of …, … are members of … (argument follows)*

> **la .alis. ta'e ctuca**
> *Alice habitually teaches.*

ta'e ≈ *modal particle: the event happens habitually*



mi ctuca
I teach / I am a teacher.

> **la .alis. cu du le ctuca**
> *Alice is the teacher.*

du ≈ *… is identical to …*

The particle **me** takes an argument after it and indicates that there are likely other teachers, and Alice is one among them.

The particle **du** is used when Alice is, for example, the teacher that we have been searching for or talking about. It indicates identity.

Thus, **me** and **du** can sometimes correspond to what in English we express using the verb *to be/is/was*.

In Lojban, we prioritize the meaning of what we intend to say, rather than relying on how it is literally expressed in English or other languages.

Other examples:

> **mi me la .bond.**
> *I am Bond.*

> **mi du la .kevin.**
> *I am Kevin (the one you needed).*

> **ti du la .alis. noi mi ta'e zgana bu'u le panka**
> *This is Alice whom I habitually see in the park.*

noi du and **poi du** are used to introduce alternate names for something. They correspond to English *namely, i.e.*:

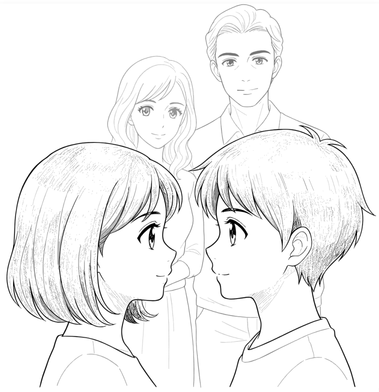
> **la .alis. cu penmi le prenu noi du la .abdul.**
> *Alice met the person, namely Abdul.*

penmi ≈ *… meets … (someone)*

When using **me**, you can connect several arguments with *and*:

> **tu me le pendo be mi be'o .e le tunba be mi**
> *Those are some (or all) of my friends and my siblings.*

tunba ≈ x_1 *is a sibling of* x_2



do tunba mi
You are my sibling.

Task

gerku ≈ x_1 *is a dog*
badna ≈ x_1 *is a banana*
pendo ≈ x_1 *is a friend of* x_2

Close the right part of the table. Translate these sentences using appropriate words for "is/are".

Those are some of my friends	**tu me le pendo be mi**
That is the dog we were looking for	**ta du le gerku**
This yellow thing is a banana	**ti pelxu gi'e me le badna**

Relations with modal particles

We can place a modal particle not only before the main relation construct of the sentence but also at the end of it, producing the same result:

> **mi ca tcidu**
> **mi tcidu ca**
> *I (now read).*

tcidu ≈ *to read (some text)*

When using **nu**, we create a relation describing some event. Notice the difference between these two examples:

> **le nu tcidu ca cu nandu**
> *The current reading is complicated, difficult.*

> **le nu tcidu cu ca nandu**
> *The reading is now complicated.*

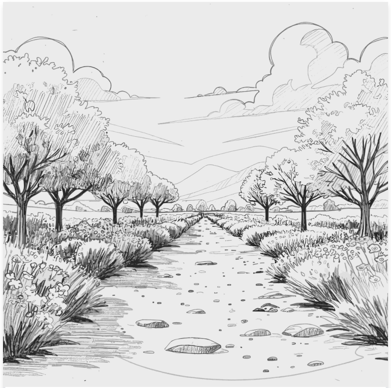
Other examples:

> **mi klama le pa cmana pu**
> *I went to the mountain.*
> `I go to a mountain (in the past).`

> **le nu mi klama le pa cmana pu cu pluka**
> *That I went to a mountain is pleasant.*

We can also put one or more modal particles as the first element of a relation construct and e.g. use such enriched relation in an argument form:

> **le pu kunti tumla ca purdi**
> *What was a desert is now a garden.*



le pu kunti tumla ca purdi
What was a desert is now a garden.

kunti ≈ *x_1 is empty*
tumla ≈ *x_1 is a parcel of land*

pu belongs to **le kunti tumla** and **ca** belongs to **purdi** (as **le pu kunti tumla** can't add **ca** at the end).

Having several modal particles in order is not a problem:

> **le pu ze'u kunti tumla ca purdi**
> *What was a desert for a long time is now a garden.*

ze'u ≈ *modal term: for a long time*

Placing term particles after nouns binds them to outer relations:

> **le kunti tumla pu purdi**
> **(le kunti tumla) pu purdi**
> *The desert was a garden.*

le kunti tumla pu purdi
The desert was a garden.

Task

melbi ≈ *x_1 is beautiful*
sutra ≈ *x_1 is fast*

Close the right part of the table. Show where the modal particles apply in these sentences.

mi ca melbi	The "ca" (present tense) applies to "melbi" - I am now beautiful
le nu mi melbi ca cu sutra	The "ca" applies to "mi melbi" - my being beautiful now is fast
le pu sutra ca melbi	The "pu" belongs to "sutra" and "ca" belongs to "melbi" - what was fast is now beautiful

New arguments from slots of the same relation

> **do plicru mi ti**
> *You grant me this.*

> **mi se plicru do ti**
> *I'm granted this by you.*

plicru ≈ *x_1 gives x_2 something x_3 for use*

We can swap the first two places in the relation using **se** and thus change the place structure.

do plicru mi ti means exactly the same as **mi se plicru do ti**. The difference is solely in style.

You may want to change things around for different emphasis, for example, to mention the more important things in a sentence first. So the following pairs mean the same thing:

> **mi prami do**
> *I love you.*

> **do se prami mi**
> *You are loved by me.*

> **le nu mi tadni la .lojban. cu xamgu mi**
> *My study of Lojban is good for me.*

xamgu ≈ *... is good for (someone)*

> **mi se xamgu le nu mi tadni la .lojban.**
> *For me, it's good to study Lojban.*

The same can be done when relation are used when creating arguments:

le plicru ≈ *those who give, the givers, the donors, the donators*
le se plicru ≈ *those who are given to, recipients of gifts*
le te plicru ≈ *those objects that are given for use, gifts*

te swaps the first and third places of relations.

As we know, when we add **le** in front of a relation construct, it becomes an argument. So

🌼 **le plicru** means *those which could fit in the first place of* ***plicru***
🌼 **le se plicru** means *those which could fit in the second place of* ***plicru***
🌼 **le te plicru** means *those which could fit in the third place of* ***plicru***

Thus, in Lojban, we don't need separate words for *donor*, *recipient*, and *gift*. We reuse the same relation and save a lot of effort because of such clever design. Indeed, we can't imagine a gift without implying that someone gave it or will give it. When useful phenomena are interconnected, Lojban reflects this.

Task

vecnu ≈ x_1 *sells* x_2 *to* x_3 *for price* x_4
ciska ≈ x_1 *writes* x_2 *on surface* x_3 *with tool* x_4

Close the right part of the table. Convert these relations using se/te/ve.

le se vecnu	what is sold (the merchandise)
le te vecnu	the buyer
le ve ciska	the writing implement
le te ciska	the writing surface

Changing other places in main relations

The series **se, te, ve, xe** (in alphabetical order) consists of particles that change places in main relations:

- **se** swaps the first and second places
- **te** swaps the first and third places
- **ve** swaps the first and fourth places
- **xe** swaps the first and fifth places.

> **mi zbasu le pa stizu le mudri**
> *I made the chair out of the piece of wood.*

zbasu ≈ *x_1 builds, makes x_2 out of x_3*
le pa stizu ≈ *the chair*
le mudri ≈ *the piece of wood*

> **le mudri cu te zbasu le stizu mi**
> *The piece of wood is what the chair is made of by me.*

The **mi** has now moved to the third place of the relation and can be dropped if we are too lazy to specify who made the chair or if we just don't know who made it:

> **le mudri cu te zbasu le stizu**
> *The piece of wood is the material of the chair.*

Similarly to our example with **le se plicru** (*the recipient*) and **le te plicru** (*the gift*), we can use **te**, **ve**, **xe** to derive more words from other places of relation words:

klama ≈ *x_1 goes to x_2 from x_3 via x_4 by means x_5*

Thus, we can derive that

le klama ≈ *the comer / the comers*
le se klama ≈ *the destination place*
le te klama ≈ *the place of origin of the movement*
le ve klama ≈ *the route*
le xe klama ≈ *the means of coming*

le xe klama and the fifth place of **klama** can denote any means of movement, like driving a car or walking on foot.

se is used more frequently than the other particles for swapping places.

Task

mrilu ≈ *x_1 mails object x_2 to recipient address x_3 from mailbox x_4 by carrier network x_5*
pagbu ≈ *x_1 is a part of x_2*

Close the right part of the table. Identify which places these converted relations refer to.

le xe mrilu	the carrier/service used for mailing
le se pagbu	the whole of which something is a part
le ve mrilu	the origin of mailing
do te mrilu ti mi	You are the recipient of this thing that I mail

Free word order: tags for roles in relations

Usually, we don't need all the slots, places of a relation, so we can omit the unnecessary ones by replacing them with **zo'e**. However, we can use *place tags* to explicitly refer to a needed slot. Place tags work like modal particles but deal with the place structure of relations:

> **mi prami do**
> is the same as
> **fa mi prami fe do**
> *I love you.*

- **fa** marks the argument that fills the first slot of a relation (x_1)
- **fe** marks the argument that fills the second slot (x_2)
- **fi** marks the argument that fills the third slot (x_3)
- **fo** marks the argument that fills the fourth slot (x_4)
- **fu** marks the argument that fills the fifth slot (x_5)

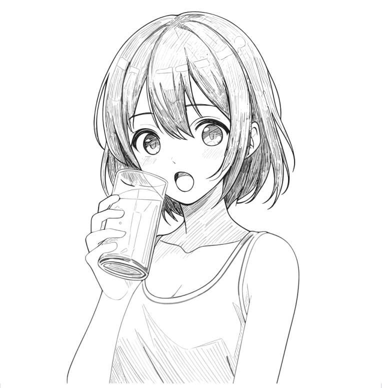
More examples:

> **mi klama fi le tcadu**
> *I go from the city.*

fi marks **le tcadu** as the third place of **klama** (the origin of movement). Without **fi**, the sentence would turn into **mi klama le tcadu**, meaning *I go to the city.*

> **mi pinxe fi le kabri**
> is the same as
> **mi pinxe zo'e le kabri**
> *I drink (something) from the cup.*

pinxe ≈ x_1 *drinks* x_2 *from* x_3
le kabri ≈ *the cup, the glass*



le prenu cu pinxe fi le kabri
The person drinks from the glass.

> **mi tugni zo'e le nu vitke le rirni**
> **mi tugni fi le nu vitke le rirni**
> *I agree (with someone) about visiting parents.*

tugni ≈ x_1 *agrees with someone* x_2 *about* x_3 *(proposition)*
le rirni ≈ *the parent / the parents*

With place tags, we can move places around:

> **fe mi fi le plise pu plicru**
> *Someone gave the apple to me.*

Here,

- **le plise** = *the apple*, we put it into the third place of **plicru**, what is given
- **mi** = *me*, we put it into the second place of **plicru**, the recipient.

As we can see in the last example, we can't even reflect the order of words in its English translation.

Extensive use of place tags can make our speech harder to perceive, but they allow for more freedom.

Unlike **se** series, using place tags like **fa** doesn't change the place structure.

We can use place tags inside arguments by placing them after **be**:

> **le pa klama be fi le tcadu cu pendo mi**
> *The one who comes from the city is my friend.*

We may also put all the arguments of one main relation in front of the sentence tail (preserving their relative order). Because of this freedom, we can say:

> **mi do prami**
> which is the same as
> **mi do cu prami**
> which is the same as
> **mi prami do**
> *I love you.*

> **ko kurji ko**
> is the same as
> **ko ko kurji**
> *Take care of yourself.*

The following sentences are also equal in meaning:

> **mi plicru do le pa plise**
> *I give you the apple.*

> **mi do cu plicru le pa plise**
> *I you give the apple.*

> **mi do le pa plise cu plicru**
> *I you the apple give.*

Task

dunda ≈ x_1 *gives* x_2 *to* x_3
xamgu ≈ x_1 *is good for* x_2 *in terms of* x_3
cuxna ≈ x_1 *chooses* x_2 *from among* x_3
zgike ≈ x_1 *is music*

Close the right part of the table. For each sentence, tell which places of the relation are filled.

fi do fe le plise fa mi dunda	x_1 = mi, x_2 = le plise, x_3 = do (I give the apple to you)
fe mi fi le zgike cu xamgu	x_1 not specified, x_2 = mi, x_3 = le zgike (something is good for me in terms of music)

Prenex

Prenex is a "prefix" of relation, in which you can declare variables to be used later:

> **pa da poi pendo mi zo'u da tavla da**
> *There is someone who is a friend of me such that he/she talks to himself/herself*

zo'u ≈ *prenex separator*
da ≈ *pronoun: variable.*

The pronoun **da** is translated as *there is something/someone* ... If we use **da** the second time in the same relation, it always refers to the same thing as the first **da**:

> **mi djica le nu su'o da poi kukte zo'u mi citka da**
> *I wish there was at least something tasty so that I eat it.*

su'o ≈ *number: at least 1*

If the variable is used in the same relation and not in any embedded relations, then you can omit the prenex altogether:

> **mi djica le nu su'o da poi kukte zo'u mi citka da**
> **mi djica le nu mi citka su'o da poi kukte**
> *I wish there was at least something tasty so that I eat it.*
> *I wish for something to be so that I eat it.*

Both examples mean the same, in both cases **su'o da** denotes *there is (were/will be) something or somebody.*

However, prenex is useful and necessary when you need to use **da** deep inside your relation, i.e. within embedded relations:

> **su'o da poi kukte zo'u mi djica le nu mi citka da**
> *There is at least something tasty: I wish I ate it, I want to eat it.*
> *There is something tasty I wish to eat.*

Notice how the meaning changes. Here, we can't omit the prenex because it will change the meaning of the previous example.

More examples:

> **mi tavla**
> *I talk.*

> **mi tavla su'o da**
> **mi tavla da**
> *There is someone I talk to.*

By default, **da** as a pronoun alone means the same as **su'o da** (*there is at least one …*) unless an explicit number is used.

> **da tavla da**
> *Someone talks to themselves.*

> **da tavla da da**
> *Someone talks to themselves about themselves.*

tavla ≈ *x_1 talks to someone x_2 about topic x_3*

> **pa da poi ckape zo'u mi djica le nu da na ku fasnu**
> *There is one dangerous thing: I wish it never happens.*

da doesn't imply any particular objects or events, which is often useful:

> **xu do tavla su'o da poi na ku slabu do**
> *Do you talk to someone not familiar to you? (no particular person in mind is described).*

> **.e'u mi joi do casnu bu'u su'o da poi drata**
> *Let's discuss in another place (no particular place in mind)*

Task

nelci ≈ *x_1 likes x_2*
citka ≈ *x_1 eats x_2*
djuno ≈ *x_1 knows x_2 (fact) about x_3*

Close the right part of the table. Say what each variable refers to in these sentences.

da poi prenu zo'u da nelci mi	There exists someone who is a person and who likes me (da refers to the same entity both times)
da citka da	Something eats itself (da refers to the same entity in both places)
su'o da poi djuno zo'u mi djica le nu da djuno ri	There exists someone knowledgeable such that I want them to know about it (da refers to the knower)

Arguments of existence

> **pa da poi me le pendo be mi zo'u mi prami da**
> *There is someone who is a friend of mine, such that I love them.*

Since **da** is used only once, we might be tempted to get rid of the prenex. But how should we handle the relative clause **poi pendo mi** (*who is a friend of mine*)?

Thankfully, in Lojban there is a shortcut:

> **pa da poi me le pendo be mi zo'u mi prami da**
> **mi prami pa le pendo be mi**
> *There is someone who is a friend of mine, such that I love them.*

Both sentences mean the same.

Arguments starting with numbers like **pa le pendo** (*there is someone who is a friend of mine*), **ci le prenu** (*there are three people*) may refer to new entities every time they are used. That's why

> **pa le pendo be mi ca tavla pa le pendo be mi**
> *There is one friend of mine who talks to one friend of mine.*

This sentence is not precise in telling whether it's your friend talking to himself/herself, or you are describing two friends of yours such that the first one is talking to your second one.

It's more reasonable to say:

> **le pa pendo be mi ca tavla ri**
> *The friend of mine is talking to himself/herself.*

ri ≈ *pronoun: refers to the previous argument excluding **mi**, **do**.*

Here, **ri** refers to the previous argument: **le pa pendo** altogether.

Note the difference:

- **da** means *there is something/someone*, **da** always refers to the same entity when used more than once in the same relation.
- argument like **pa le mlatu** (with a bare number) is similar to using **pa da poi me le mlatu** but it can refer to new entities every time it is used.

> **mi nitcu le nu pa da poi mikce zo'u da kurju mi**
> *I need a doctor to take care of me (implying "any doctor will do").*

> **pa da poi mikce zo'u mi nitcu le nu da kurju mi**
> *There is a doctor whom I need to take care of me.*

One more example:

> **le nu pilno pa le bangu kei na ku banzu**
> *Using just one of the languages is not enough.*

pilno ≈ *… uses …*
banzu ≈ *… is enough for purpose …*

Compare it to:

> **le nu pilno le pa bangu kei na ku banzu**
> *Using the language (the one in question) is not enough.*

Arguments of existence are naturally used inside inner relations and with **tu'a**:

> **mi djica le nu mi citka pa le plise**
> *I want to eat an apple, some apple.*

> **mi djica tu'a pa le plise**
> *I want something about an apple, some apple (probably, eating it, maybe chewing it, licking it, throwing it at your friend etc.)*

Notice the difference:

> **mi djica tu'a le pa plise**
> *I want something about the apple (the apple in question).*

Task

nelci ≈ x_1 *likes* x_2
zmadu ≈ x_1 *exceeds* x_2 *in property* x_3
mlatu ≈ x_1 *is a cat*

Close the right part of the table. Explain the difference in meaning between these sentences.

pa da poi mlatu cu nelci mi vs **mi nelci pa le mlatu**	First means "There exists a specific cat that likes me", second means "I like some cat (any cat)"
re da poi prenu cu zmadu pa de poi prenu vs **re le prenu cu zmadu pa le prenu**	First means "Two specific people exceed one specific person", second could refer to different people each time
da tavla da vs **pa le prenu cu tavla pa le prenu**	First means "Someone talks to themselves", second could mean either self-talk or one person talking to another

‘I have an arm.’ ‘I have a brother.’

The English verb *to have* has several meanings. Let's list some of them.

> **pa da birka mi**
> *I have an arm.*
> `There is something that is an arm of me`

birka ≈ *x_1 is an arm of x_2*

We use the same strategy for expressing family relationships:

> **pa da bruna mi**
> **mi se bruna pa da**
> *Someone is my brother.*
> *I have one brother.*
> `There is someone who is a brother of me`

> **re lo bruna be mi cu clani**
> *I have two brothers, and they are tall.*

clani ≈ *x_1 is long, tall*

So we don't need the verb *to have* to denote such relationships. The same applies to other family members:

> **da mamta mi**
> **mi se mamta da**
> *I have a mother.*

> **da patfu mi**
> **mi se patfu da**
> *I have a father.*

> **da mensi mi**
> **mi se mensi da**
> *I have a sister.*

> **da panzi mi**
> **mi se panzi da**
> *I have a child (or children).*

panzi ≈ *x_1 is a child, offspring of x_2*

Note that using a number in front of **da** isn't necessary if the context is enough.

Another meaning of *to have* is *to keep*:

> **mi ralte le pa gerku**
> *I have the dog.*
> `I keep the dog`

> **mi ralte le pa karce**
> *I have the car.*

ralte ≈ *x_1 keeps x_2 in their possession*

If you own, possess something according to some law or documents, you should use **ponse**:

> **mi ponse le karce**
> *I own the car.*
> *I have the car.*

ponse ≈ *x_1 owns x_2*

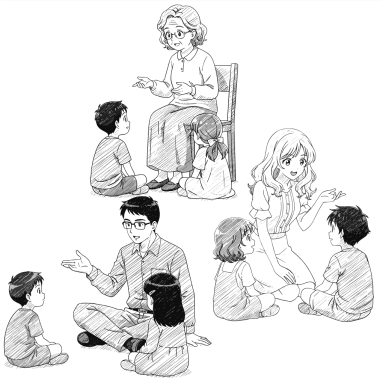
Task

mamta ≈ *x_1 is a mother of x_2*
patfu ≈ *x_1 is a father of x_2*
ralte ≈ *x_1 keeps x_2 in their possession*
ponse ≈ *x_1 legally owns x_2*
danlu ≈ *… is an animal*

Close the right part of the table. Convert these English sentences about possession into Lojban.

I have a sister	**mi se mensi da** or **da mensi mi**
They have two children	**re da panzi ri** or **ri se panzi re da**
I have (own) the book	**mi ponse le cukta**
I have (keep) a pet	**mi ralte le danlu pendo**

Scope



ci le prenu cu tavla re le verba
Three people each talks to two children.

The order of

- terms, starting with numbers,
- modal terms, and
- modal particles of relation constructs,

matters and should be read from left to right:

> **ci le pendo cu tavla re le verba**
> *There are three friends, each talking to two children.*

The overall number of children here may be as high as six.

By using **zo'u**, we can make our sentence clearer:

> **ci da poi me le pendo ku'o re de poi me le verba zo'u da tavla de**
> *For three **da** which are among the friends, for two **de** which are among the children: **da** talks to **de**.*

Here, we see that each of the friends is said to talk to two children, and it might be different children each time, with up to six children in total.

How then can we express the other interpretation, in which just two children are involved? We cannot merely reverse the order of variables in the prenex to:

> **re de poi me le verba ku'o ci da poi me le pendo zo'u da tavla de**
> *For two **de** which are among the children, for three **da** which are among the friends, **da** talks to **de***

Although we have now limited the number of children to exactly two, we end up with an indeterminate number of friends, ranging from three to six. This distinction is called a “scope distinction”: in the first example, **ci da poi me le pendo** is said to have a wider scope than **re de poi me le verba**, and therefore precedes it in the prenex. In the second example, the reverse is true.

To make the scope equal, we use a special conjunction **ce'e** connecting two terms:

> **ci da poi me le pendo ce'e re de poi me le verba cu tavla**
> **ci le pendo ce'e re le verba cu tavla**
> *Three friends [and] two children, talk.*

This picks out two groups, one of three friends and the other of two children, and says that each of the friends talks to each of the children.

The order matters with modal particles modifying main relation constructs too:

> **mi speni**
> *I am married, I have a wife or a husband.*

> **mi co'a speni**
> *I get married.*

> **mi mo'u speni**
> *I am widowed.*

mo'u ≈ *term: the event is completed*

Now compare:

> **mi mo'u co'a speni**
> *I am newlywed.*
> `I finished becoming a married person.`

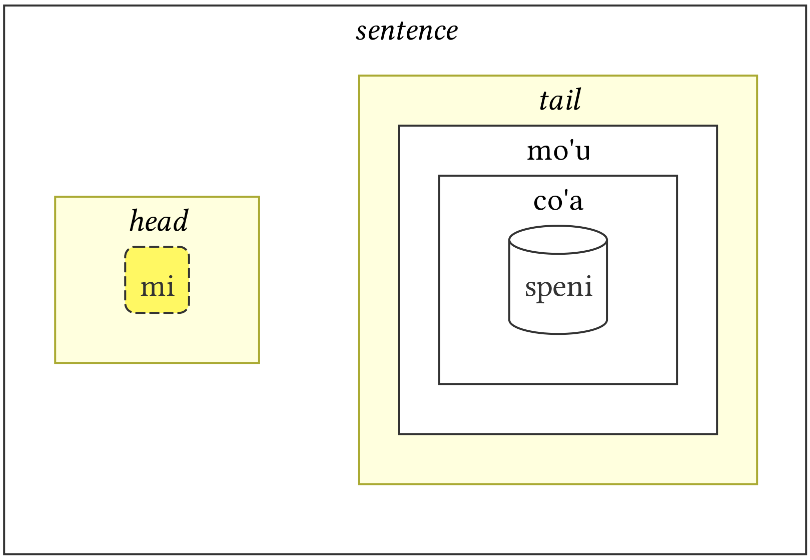
> **mi co'a mo'u speni**
> *I get widowed.*
> `I become finishing being married.`

If there are several modal particles in one sentence, the rule is that we read them from left to right together, thinking of it as a so-called *imaginary journey*. We begin at an implied point in time and space (the speaker's "now and here" if no argument is attached to the right), and then follow the modals one after another from left to right.

Let's take **mi mo'u co'a speni**.

mo'u means that an event is complete. Which event? The event **co'a speni** — to become married. Hence, **mi mo'u co'a speni** means *I finish the process of becoming married*, i.e., *I am newlywed.*

In such cases, we say that **co'a speni** is within the "scope" of **mo'u**.



In **mi co'a mo'u speni**, the order of events is different.

First, it is said that an event started (**co'a**), then it is stated that it is an event of finishing being married. Hence, **mi co'a mo'u speni** means *I get widowed.*

We can say that here **mo'u speni** is within the "scope" of **co'a**.

Another example:

> **mi co'a ta'e citka**
>
> *I start to habitually eat.*

> **mi ta'e co'a citka**
>
> *I habitually start to eat.*

Examples with simple tenses:

> **mi pu ba klama le cmana**
>
> *It happened before I went to the mountain.*
>
> `I in past: in future: go to the mountain.`

> **mi ba pu klama le cmana**
>
> *It will happen after I went to the mountain.*
>
> `I in future: in past: go to the mountain.`

The rule of reading terms from left to right can be overridden by connecting modal particles with the conjunction **ce'e**:

> **mi ba ce'e pu klama le cmana**
>
> *I went and will go to the mountain.*
>
> `I in future and in past: go to the mountain.`

> **mi cadzu ba le nu mi citka ce'e pu le nu mi sipna**
> *I walk after I eat and before I sleep.*

Task

tavla ≈ *x_1 talks to x_2 about x_3*
zgana ≈ *x_1 observes x_2*
citka ≈ *x_1 eats x_2*

Close the right part of the table. Explain the difference in meaning between these sentences with different scope.

ci le prenu cu tavla re le verba vs **re le verba cu se tavla ci le prenu**	First: Three people each talk to two children (up to 6 children total). Second: Two specific children are talked to by three people
mi ca'o zgana re le mlatu vs **re le mlatu ca'o se zgana mi**	First: I am observing two cats (any two). Second: Two specific cats are being observed by me
mi pu co'a citka vs **co'a mi pu citka**	First: In the past I started eating. Second: It started that in the past I ate

Modal particles + «**da**» + arguments that start with numbers

Like with modal terms, the position of **da** matters:

> **mi ponse da**
> *There is something I own.*

> **mi co'u ponse da**
> *I lost all my property.*

ponse ≈ *x_1 owns x_2*
co'u ≈ *modal term: the event stops*

This might look like a mind-breaking example. Here, a person was able to say *I own something*. But then for everything the person owned, this situation ended.

Another example:

> **ro da vi cu cizra**
> *Everything is strange here.*
> `Every thing here strange`

vi ≈ *here, at a short distance*
cizra ≈ *x_1 is strange*

> **vi ku ro da cizra**
> *Here, everything is strange.*
> `Here: every thing strange`

Did you catch the difference?

1. *Everything is strange here* means that if something is not strange somewhere, it becomes strange at this place.
2. *Here, everything is strange* simply describes those objects or events that are here (and they are strange). We don't know anything about others in other places.

Another example with an argument term starting with a number:

vi ku ro da cizra
Here, everything is strange.

> **pa le prenu ta'e jundi**
> *There is one person who is habitually attentive.*

— it is the same person who is attentive.

> **ta'e ku pa le prenu cu jundi**
> *It habitually happens that there is one person who is attentive.*

— it is always that one person is attentive. People may change, but there is always one attentive person.

Task

stati ≈ *x_1 is smart/clever*
jundi ≈ *x_1 is attentive to x_2*
zvati ≈ *x_1 is present at x_2*

Close the right part of the table. Explain how the position of modal terms and existential arguments changes the meaning.

pa le prenu ca stati vs **ca ku pa le prenu cu stati**	First: A specific person is now clever. Second: Now, there is one person who is clever (might be different people at different times)
da vi cu jundi vs **vi ku da jundi**	First: Something is attentive here (might not be attentive elsewhere). Second: Here, something is attentive (says nothing about elsewhere)
su'o da zo'u da pu zvati vs **pu ku su'o da zvati**	First: There exists something that was present. Second: In the past, something existed that was present

Generic arguments. ‘I like cats (in general)’. Sets

> **mi nelci le'e mlatu**
> *I like cats.*

We've seen **le** being mostly translated as the English *the*. However, in some cases, we might want to describe a typical object or event that best exemplifies a type of object or event in our context. In this case, we replace **le** with **le'e**:

> **mi nelci le'e badna .i mi na ku nelci le'e plise**
> *I like bananas. I don't like apples.*

I might not have any bananas or apples at hand. I'm simply talking about bananas and apples as I understand, remember, or define them.

To make an argument term describing the set of objects or events (from which we derive such a typical element), we use the word **le'i**:

> **le danlu pendo pe mi cu mupli le ka ca da co'a morsi kei le'i mabru**
> *My pet is an example that at one point mammals die.*

danlu ≈ *x_1 is a mammal*
morsi ≈ *x_1 is dead*
co'a morsi ≈ *x_1 dies*
ca da ≈ *at some point in time*
mupli ≈ *x_1 is an example of x_2 (property) among x_3 (set)*

Dictionaries specify slots of relations that have to be filled with sets.

Task

nelci ≈ *x_1 likes x_2*
mupli ≈ *x_1 is an example of x_2 among x_3*
le'e ≈ *article for typical elements*
le'i ≈ *article for sets*
grute ≈ *... is a fruit*

Close the right part of the table. Convert these sentences using appropriate articles.

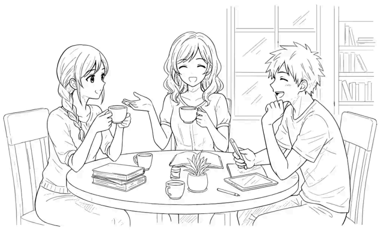
I like dogs (in general)	**mi nelci le'e gerku**
This cat represents all cats	**ti mupli le ka gerku kei le'i gerku**
I like the typical fruit	**mi nelci le'e grute**

Masses

> **lei prenu pu sruri le jubme**
> *The people surrounded the table.*
> `The mass of people did surround the table.`

sruri ≈ *... surrounds ... (something)*
le jubme ≈ *the table, the tables*

We use **lei** instead of **le** to show that the mass of objects is relevant to the action, but not necessarily each of those objects individually. Compare:



lei prenu cu sruri le jubme
The people surrounded the table.

> **le prenu pu smaji**
> *The people were silent.*

> **lei prenu pu smaji**
> *The crowd was silent.*

le prenu ≈ *the person, the people*
lei prenu ≈ *the crowd, the mass of people*
smaji ≈ *x_1 is silent*

> **le since cu sruri le garna**
> *The snakes surrounded the rod.*
> *Each of the snakes surrounded the rod.*

le since ≈ *the snake, the snakes*

le garna ≈ *the rod, the rods*

— here, each snake surrounded the rod probably by curling around it.

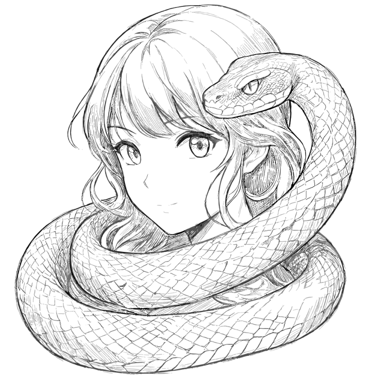
> **lei since cu sruri le garna**
> *The snakes surrounded the rod.*
> *The snakes together as a mass surrounded the rod.*

— here, we don't care about individual snakes, but we state that the snakes as a mass collectively surrounded the rod.

> **lei re djine cu sinxa la .lojban.**
> *The two rings are a symbol of Lojban.*

> **na ku re le djine cu sinxa la lojban**
> *It's not true that each of the two rings is a symbol of Lojban.*

djine ≈ *x_1 is a ring*



le pa since cu sruri le prenu
The snake surrounded the person.

Indeed, only the two rings together form a symbol.

Consider a sentence:

> *Apples are heavy.*

Does it mean that each apple is heavy, or does it mean that they are heavy if taken together?

In Lojban, we can easily distinguish between these two cases:

> **le ci plise cu tilju**
> *Each of the three apples is heavy.*

> **le plise cu tilju**
> *Each of the apples is heavy.*

> **lei ci plise cu tilju**
> *The three apples are heavy in total.*
> (so that every apple might be light, but together they are heavy)

tilju ≈ *x_1 is heavy*

As you can see, there is an important difference between describing an object within a mass and describing the mass itself.

Task

gunma ≈ *x_1 is a mass formed from components x_2*
barda ≈ *x_1 is big/large*
zvati ≈ *x_1 is present at x_2*
le ratcu ≈ *the rat, the rats*
le cirla ≈ *the cheese*

Close the right part of the table. Explain the difference between using le and lei.

le prenu cu barda vs **lei prenu cu barda**	First: Each person is large. Second: The mass of people is large (while individuals might be small)
le pa ci mlatu cu zvati le zdani vs **lei pa ci mlatu cu zvati le zdani**	First: Each of the 13 cats is at home. Second: The group of 13 cats is at home (together)
le ratcu cu citka le cirla vs **lei ratcu cu citka lei cirla**	First: Each rat eats each piece of cheese. Second: The mass of rats eats the mass of cheese

Numbers in places

> **le ci plise cu grake li pa no no**
> *Each of the three apples weigh 100 grams.*

> **lei ci plise cu grake li pa no no**
> *The three apples weigh 100 grams in total.*
> (so that every apple weighs ≈ 33 grams on average)

grake ≈ *x_1 weighs x_2 (number) grams*

When a place of a relation requires a number as mentioned by the dictionary, then to use that number, we prefix it with the word **li**.

li is a prefix signaling that a number, a timestamp, or some math expression is coming.

> **li mu no**
> *Number 50.*

A simple **mu no** not being prefixed by **li** would be used to denote 50 objects or events.

Task

grake ≈ x_1 *weighs* x_2 *(number) grams*

Close the right part of the table. Translate the sentences on the left from Lojban.

lei ci prenu cu grake li pa no no	*The three people together weigh 100 grams.*
le ci plise cu grake li pa no no	*Each of the three apples weighs 100 grams.*
lei za'u re prenu cu tilju	*More than two people together are heavy.*

Close the right part of the table. Translate the sentences on the left to Lojban.

Each of the five apples weighs 20 grams.	**le mu plise cu grake li re no**
The six people together weigh 300 grams.	**lei xa prenu cu grake li ci no no**

Lesson 3. Quoting. Questions. Interjections

«**sei**»: comments to the text

The particle **sei** allows inserting a comment about our attitude regarding what is said in a relation:

> **do jinga sei mi gleki**
> *You won! (I'm happy about that!)*

However:

> **do jinga sei la .ian. cu gleki**
> *You won! (And Yan is happy about that!)*

Like with arguments formed using **le**, the relation formed with **sei** must end in a relation construct.

> **la .alis. cu prami sei la .bob. cu gleki la .kevin.**

Let's add brackets to make it more easily readable.

> **la .alis. cu prami (sei la .bob. cu gleki) la .kevin.**
> *Alice loves (Bob is happy) Kevin.*
> *Alice loves Kevin (Bob is happy).*

We can of course add more arguments to the relation with **be** and **bei** as we do inside argument terms:

> **do jinga sei mi zausku be fo la fircku**
> *You won! (I'll post congrats on Facebook)*

la fircku ≈ *Facebook*
zausku ≈ *x_1 praises x_2 for audience x_3 via means x_4*

Task

jinga ≈ *… wins*
tirna ≈ *… hears … (something)*

Close the right part of the table. Translate from Lojban:

do jinga sei mi gleki	*You won! (I'm happy about that!)*
mi tavla sei le pendo cu pinxe	*I talk (and my friend is drinking)*
mi citka sei le mlatu cu tirna	*I eat (and the cat hears it)*

Close the right part of the table. Translate to Lojban:

kucli ≈ *… is curious about … (some event)*

I study (and I'm interested in it)	**mi tadni sei mi kucli**
The cat sleeps (I watch it)	**le mlatu cu sipna sei mi catlu**

Quotation marks

For quoting text, we place the quotation particle **lu** before the quote and place **li'u** after it. The result is an argument representing the quoted text:

> **mi cusku lu mi prami do li'u**
> *I say "I love you."*

cusku ≈ *x_1 expresses/says x_2 (quote) to audience x_3*

A nice feature of Lojban is that **lu** — «quote» and **li'u** — «unquote» marks are pronounceable. It is quite handy since, in spoken Lojban, you don't have to change intonation to show where a quoted text starts and ends.

However, in written text that quotes a conversation, the author often draws the reader's attention to the content of quotations. In such cases, **sei** is preferred.

We can also nest quotations, for example:

> **la .ian. pu cusku lu la .djein. pu cusku lu coi li'u mi li'u**
> *Yan said, "Jane said, 'Hello' to me."*

which is similar to

> **la .ian. pu cusku lu la .djein. pu rinsa mi li'u**
> *Yan said, "Jane greeted me."*

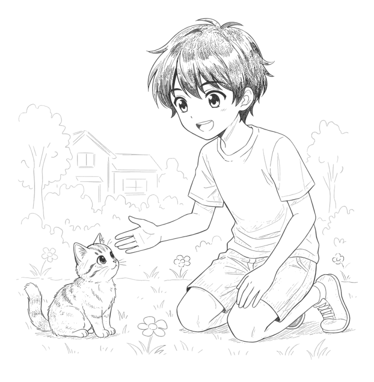
rinsa ≈ *x_1 greets someone x_2*

Note that in Lojban, we distinguish things and their names:

> **lu le munje li'u cu cmalu**
> *"The universe" is small.*

> **le munje na ku cmalu**
> *The universe is not small.*

le munje ≈ *the universe, world*



le prenu cu rinsa mi
The person greets me.

Here, the text *"the universe"* is small, whereas the universe is not.

Interjections and vocatives work like **sei** constructs:

> **je'u mi jinga sei ra cusku**
> *Truly, "I won", he said.*

je'u ≈ *interjection: truly*

As you can see, **je'u** is not part of his words. It represents your attitude toward the relation. If you want to quote "**je'u mi jinga**", use quotation marks like this:

> **lu je'u mi jinga li'u se cusku ra**
> *"Truly, I won", he said.*

Notice the difference between the two examples?

Here are several common relation words related to talking:

> **ra pu retsku lu do klama ma li'u**
> *She asked, "Where do you go?"*

> **mi pu spusku lu mi klama le zdani li'u**
> *I replied, "I am going home."*

> **mi pu spuda le se retsku be ra le ka spusku lu mi klama le zdani li'u**
> *I replied to her question by saying, "I am going home."*

spuda ≈ *x_1 replies to x_2 by doing x_3 (property of x_1)*

The remaining three relation words have identical place structure:

cusku ≈ *x_1 expresses/says x_2 (quote) to audience x_3*
retsku ≈ *x_1 asks x_2 (quote) to audience x_3*
spusku ≈ *x_1 replies/says answer x_2 (quote) to audience x_3*

Task

Close the right part of the table. Translate from Lojban:

lu mi klama li'u se cusku le prenu	*"I am coming" is said by the person*
le prenu pu cusku lu mi pinxe le djacu li'u	*The person said "I drink water"*
mi pu retsku lu ma li'u	*I asked "What?"*

Close the right part of the table. Translate to Lojban:

The person says "Hello"	**le prenu cu cusku lu coi li'u**
I ask "Where are you going?"	**mi retsku lu do klama ma li'u**

«**zo**» — quoting one word

zo is a quotation marker, similar to **lu**. However, **zo** quotes only one word immediately following it. This means it does not require an unquote word like **li'u**; we already know where the quotation ends. By doing this, we save two syllables and make our speech more concise.

> **zo .robin. cmene mi**
> *"Robin" is my name.*
> *My name is Robin.*

cmene ≈ *x_1 (quote) is a name of x_2 ...*

To present yourself in Lojban using your Lojbanized name, follow the example above. If your name consists of more than one word, use **lu ... li'u**:

> **lu .robin.djonsyn. li'u cmene mi**
> *Robin Johnson is my name.*

Another approach is to use **me**:

> **mi me la .robin.djonsyn.**
> *I'm Robin Johnson.*

Notice the difference: *"Robin"* with quotation marks is a quoted name, whereas Robin is a person.

To show this better, here is a silly variation:

> **zo .robin. cmene la .robin.**
> *"Robin" is Robin's name.*
> *"Robin" is a name of Robin.*

The first place of **cmene** is a quote, a text. Therefore, we use **lu ... li'u** or **zo** to create a quote and fill the first place of **cmene** with it, instead of **la** (prefix for names).

Task

Close the right part of the table. Translate from Lojban:

zo mi cmene mi	*"mi" is my name*
zo la'o cmene mi	*"la'o" is my name*

Close the right part of the table. Translate to Lojban:

"James" is my name	**zo .djeimz. cmene mi**

Verbs of speech

Here are some relations describing speech:

> **mi pu skicu le purdi le pendo be mi lo ka bredi**
> *I told my friend about my garden being ready.*

skicu ≈ *x_1 tells about x_1 (object/event/state) to x_3 with description x_4 (property)*
bredi ≈ *... is ready to ...*

> **mi pu cusku lu le purdi cu bredi li'u le pendo be mi lo ka cladu bacru**
> *I said to my friend, "The garden is ready," by uttering it loudly.*

cusku ≈ *x_1 says x_2 (text) for audience x_3 via medium x_4*
cladu ≈ *... is loud*

> **mi pu tavla le pendo be mi le nu le purdi cu bredi kei le lojbo**
> *I talked to my friend in Lojban about the garden being ready.*

tavla ≈ *x_1 talks to x_2 about subject x_3 in language x_4*

In short:

🌼 **skicu** means *to tell, to describe with some description,*
🌼 **cusku** means *to say some text,*
🌼 **tavla** means *to talk in a language.*

Content questions

English has several *wh-* question words — *who, what* etc. In Lojban, for both of them we use one word: **ma**. This word is an argument (like **mi**, **le prenu** etc.) and it'ss like a suggestion to to fill in the missing place. For example:

> **— do klama ma**
> **— la .london.**
> *— Where are you going?*
> *— London.*

> **— ma klama la .london.**
> **— la .kevin.**
> *— Who's going to London?*
> *— Kevin.*

> **— mi plicru do ma**
> **— le plise**
> *— I give you what?* (probably meaning *What was it I was supposed to be giving you?*) >
> *— The apple.*

To translate *which/what*, we also use **ma**:

> — **ma gugde gi'e se xabju do**
>
> — **le gugde'usu**
>
> — *In what country do you live?*
>
> — *USA*
>
> `— What is a country and is inhabited by you`
>
> `>`
>
> `— USA`

xabju ≈ *… (someone) inhabits … (some place)*
se xabju ≈ *… (some place) is inhabited by … (someone)*

mo is similar to **ma**, but it is a relation word.

mo suggests to fill in a relation instead of an argument. It's like asking *What does X do?* or *What is X?* in English (Lojban doesn't force you to distinguish between being and doing).

We can see **mo** as asking someone to describe the relationship between the arguments in the question.

> — **do mo**
>
> — *How do you do? What's up?*
>
> `— You are what, you do what?`

This is the most common way of asking *How do you do?* or *Howdy?* in Lojban. Some possible answers:

> — **mi gleki**
>
> — *I'm happy.*

gleki ≈ *x_1 is happy*

> — **mi kanro**
>
> — *I'm healthy.*

> **mi tatpi**
>
> *I'm tired.*

> **mi gunka**
>
> *I'm working.*

Another way of asking *How do you do?*:

> — **do cinmo le ka mo**
>
> — *How do you feel (emotionally)?*

cinmo ≈ *x_1 feels x_2 (property of x_1)*

Other examples:

> **ti mo**
> *What is this?*

> **la .meilis. cu mo**
> *Who is Mei Li? / What is Mei Li? / What is Mei Li doing?*

Possible answers depending on context:

- **ninmu**: *She's a woman.*
- **jungo**: *She's Chinese.*
- **pulji**: *She's a police officer.*
- **sanga**: *She's a singer* or *She's singing.*

> **do mo la .kevin.**
> *What are you to Kevin?*
> `You are what (you do what) to Kevin.`

The answer depends on the context. Possible answers to this question are:

- **nelci**: *I like him.*
- **pendo**: *I am his friend*
- **prami**: *I adore/am in love with him.*
- **xebni**: *I hate him.*
- **fengu**: *I'm angry with him.*
- **cinba**: *I kissed him.*

Note once again that the time is not important here: just as **cinba** can mean *kiss*, *kissed*, *will kiss* and so on, **mo** does not ask a question about any particular time.

If we do want to differentiate between *to do* and *to be someone or something* we use additional relations:

> **la meilis cu zukte ma**
> `Mei Li does what?`
>
> `>`
>
> *What does Mei Li do?*

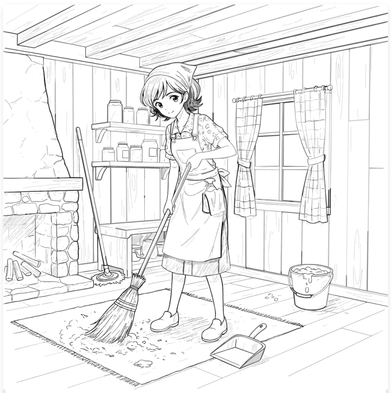
> **le ka lumci**
> *cleaning.*

> **la meilis cu zukte le ka lumci**
> *Mei Li is does cleaning.*

zukte ≈ *x_1 does x_2 (property of x_1)*
lumci ≈ *... cleans up or washes ... (something)*

> **do du ma**
> `You are who?`

> **mi du le ctuca**
> *I am the teacher.*



ra lumci le zdani
She cleans up the home.

Using modal terms with **ma** can give us other useful questions:

word	meaning	[literally]
ca ma	When?	during what
bu'u ma	Where?	at what
ma prenu gi'e ...	Who?	who is a person and ...
ma dacti gi'e	What? (about objects)	what is an object and ...
ri'a ma	Why?	because of what
pe ma	Whose? Which? About what?	pertaining to what or whom
le mlatu poi mo	Which cat? Which kind of cat?	

pe ma is attached only to arguments:

> **le penbi pe ma cu zvati le jubme**
> *Whose pen is on the table?*

Task

Close the right part of the table. Translate from Lojban:

do mo	*What are you? / What do you do?*
le mlatu cu mo	*What does the cat do?*
ma tadni la lojban	*Who studies Lojban?*
do klama ma	*Where are you going?*

Close the right part of the table. Translate to Lojban:

What do you want?	**do djica ma**
Who is talking?	**ma tavla**
What is that?	**tu mo**

Number questions

> **le xo prenu cu klama ti**
> *How many people are coming here?*

> **mu**
> *Five.*

The word **xo** means *How many?* and thus asks for a number. The full answer will be:

> **le mu prenu cu klama ti**
> *The 5 people are coming to this place.*

The person being asked is supposed to put an appropriate value in place of **xo**.

Here are a few more examples:

> **le xo botpi cu kunti**
> *How many bottles are empty?*

le botpi ≈ *the bottle, the bottles*
kunti ≈ *... is empty*

> **do ralte le xo gerku**
> *How many dogs do you keep?*

Task

Close the right part of the table. Translate from Lojban:

le xo prenu cu tavla	*How many people are talking?*
do ralte le xo gerku	*How many dogs do you keep?*

Close the right part of the table. Translate to Lojban:

How many cats do you see?	**do viska le xo mlatu**
How many friends do you have?	**do pendo le xo prenu**

Verbs of facts

Consider the example:

> **mi djuno le du'u do stati**
> *I know that you are smart.*

djuno ≈ *x_1 knows x_2 (proposition) about x_3*

> **mi jimpe le du'u do pu citka**
> *I understand that you were eating.*

jimpe ≈ *x_1 understands x_2 (proposition) about x_3*

In places that describe facts, the particle **du'u** is used (instead of **nu**).

djuno (*to know*) and **jimpe** (*to understand*) describe facts. It would be illogical to say, *I understand that you were eating, but in fact, you weren't.*

Note that the relation started with **du'u** doesn't have to be true:

> **le du'u do mlatu cu jitfa**
> *That you are a cat is false.*

jitfa ≈ x_1 *(proposition) is false*

mi na jimpe
I don't understand.

When should you use **du'u** and when should you use **nu**? You may consult the dictionary:

- 🌼 The label *(du'u)* or *(proposition)* marks places where **du'u** is recommended.
- 🌼 The label *(nu)* or *(event)* marks places where **nu** is recommended.

If you mistakenly use **nu** instead of **du'u**, you will still be understood. However, fluent Lojban speakers typically distinguish between these particles.

Task

Close the right part of the table. Translate the sentences on the left from Lojban.

mi djuno le du'u do stati	*I know that you are smart.*
mi jimpe le du'u le prenu cu tavla	*I understand that the person is talking.*

Close the right part of the table. Translate the sentences on the left to Lojban.

I know that you love me.	**mi djuno le du'u do prami mi**
I understand that the water is tasty.	**mi jimpe le du'u le djacu cu kukte**

Indirect questions

> **mi djuno le du'u ma kau tadni la .lojban.**
> *I know who is studying Lojban.*

This is called an indirect question. The word *who* here is not a request for information, and there is no question mark. The answer is presumed, and in fact, you yourself know the answer to the question *Who is learning Lojban?*

kau is an interjection that we put after a question word to indicate it's an indirect question.

If I ask you the question **ma tadni la .lojban.**, you know what value to fill in the **ma** slot with: **la .kevin.** So you could just say

> **ma tadni la .lojban.**
> *Who is studying Lojban?*

> **mi djuno le du'u ma kau tadni la .lojban.**
> *I know who is studying Lojban. I know the identity of the person studying Lojban.*

> **mi djica le nu ma tadni la .lojban.**
> *Who do I want to study Lojban?*
> `I want who to study Lojban?`

This can never be an indirect question: it is asking for an answer (even if you're doing it rhetorically).

You can put it after other question words:

> **mi djuno le du'u le xo kau prenu cu tadni la .lojban.**
> *I know how many people study Lojban.*

Task

Close the right part of the table. Translate from Lojban:

mi djuno le du'u ma kau tadni	*I know who is studying*
mi na djuno le du'u do zvati ma kau	*I don't know where you are*
mi djica le nu mi djuno le du'u le xo kau prenu cu tavla	*I want to know how many people are talking*

Close the right part of the table. Translate to Lojban:

I know what you like	**mi djuno le du'u do nelci ma kau**
Tell me where you live	**.e'o do tavla mi le du'u do xabju ma kau**

Indirect quotations (reported speech): ‘*I said that I would come.*’

A relation like *Alice said, "Michelle said, 'Hello' to me"* can also be expressed in a subtler way:

> **la .alis. pu cusku zo'e pe le nu la .micel. pu rinsa la .alis.**
> *Alice said something about Michelle greeting her before.*
> `Alice said something about the event of Michelle greeting her.`

Alternatively, you can make it shorter:

> **la .alis. pu cusku le se du'u la .micel. pu rinsa la .alis.**
> *Alice said that Michelle had greeted her.*

The combination **se du'u** allows the expression of indirect speech.

Here are some examples of relations useful for reported speech:

> **le ninmu pu retsku le se du'u mi klama ma kau**
> *She asked where I was going.*

> **mi pu spusku le se du'u mi klama le zdani**
> *I replied that I was going home.*

> **mi pu spuda le se retsku be le ninmu le ka spusku le se du'u mi klama le zdani**
> *I replied to her question by saying in reply that I was going home.*

Questions in reported speech:

> **mi pu cusku le se du'u ma tadni la .lojban.**
> *Who did I say is studying Lojban?*
> `I said who is studying Lojban?`

Thus, Lojban has several words for *that …*, depending on what sort of thing is meant.

🌼 If *that* describes what can be seen, heard, or what happens, use **nu**.
🌼 If *that* describes what you think, some fact, or information, use **du'u**.
🌼 If *that* describes what you say, use **se du'u**.
    ⚙️ But if you need a literal quote, use **lu … li'u**.

Task

le ladru ≈ *the milk*

Close the right part of the table. Translate from Lojban:

mi cusku le se du'u mi nelci do	*I say that I like you*
mi pu cusku le se du'u mi ba vitke do	*I said that I would visit you*
le pendo cu cusku le se du'u le mlatu cu pinxe le ladru	*The friend says that the cat drinks milk*

Close the right part of the table. Translate to Lojban:

He said that he was happy	**ra pu cusku le se du'u ra gleki**
I told you that I was coming	**mi pu cusku le se du'u mi ba klama**

Emotional interjections: ‘*Yay!*’ = «**ui**», ‘*Aye!*’ = «**ie**», ‘*Phew!*’ = «**.o'u**»

We know such interjections as **ui** (*Yay!*), **.a'o** (*I hope*).

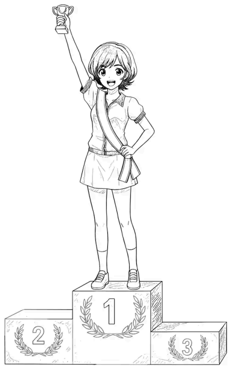
> **do jinga ui**
> *You won! (I'm happy about that!)*

ui ≈ *interjection: Yay!, interjection of happiness*

Interjections work like **sei** with their relations. **ui** means the same as **sei mi gleki** so we could as well say **do jinga sei mi gleki** meaning the same (although it's a bit more lengthy).

There are interjections expressing other emotional states. They are similar to smileys like ;-) or :-(but in Lojban, we can be more specific about our emotions while still remaining concise in our speech.

> **ie tu mlatu**
> *Agreed, that is a cat.*



ui mi jinga
Yay! I won!

> **ie nai .i tu na ku mlatu**
> *No, I don't agree. That is not a cat.*

ie ≈ *interjection: Yeah! Aye! (agreement)*
ie nai ≈ *interjection: disagreement*

> **.ai mi vitke do**
> *I'm going to visit you.*

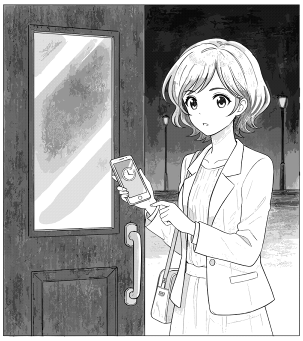
.ai ≈ *interjection: I'm going to … (intent)*

> **.au do kanro**
> *I wish you were healthy.*

.au ≈ *interjection of desire*

> **.a'o do clira klama**
> *I hope you come early.*

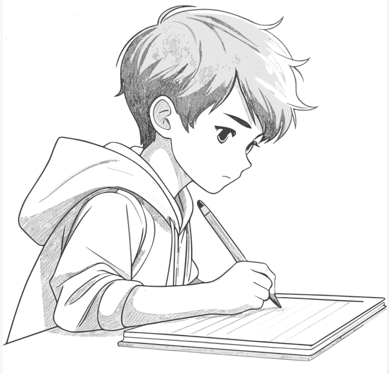
.a'o ≈ *interjection: I hope*
clira ≈ *x_1 happens early*



mi clira klama
I came early.

> **.ei mi ciska le xatra le pelji le penbi**
> *I should write the letter on the paper using the pen.*

.ei ≈ *I should … (obligation)*
ciska ≈ *x_1 writes x_2 on medium x_4*



.ei mi ciska le xatra ti voi pelji ku'o le penbi
I should write the letter on this paper using the pen.

> **.i'e do pu gunka le vajni**
> *Very good! You did important work.*

.i'e ≈ *interjection: Fine! (approval)*

> **.o'u tu mlatu**
> *Oh, that's only a cat.*

.o'u ≈ *interjection: Phew! (relaxation)*

In this case, you probably thought that was something dangerous, but it's only a cat, so you are saying **.o'u**.

> **.u'i ti zmitci**
> *Ha-ha, this is a robot.*

.u'i ≈ *interjection: Ha-ha! (amusement)*
zmitci ≈ *... is an automatic tool*

You can add or remove interjections to or from a sentence without the risk of breaking it.

Any word that starts with a pure vowel (excluding **u** and **i** before vowels) is prefixed with a dot in Lojban in writing and with a pause in speech. So, the correct spelling is **.a'o** and so on. It's common to omit dots in writing. However, while speaking, you should always show this dot by making a short pause before saying such a word to prevent merging two neighboring words together into one.

Like with **xu** or **sei**-relations, we can add interjections after any argument or relation construct, thus expressing our attitude towards that part of the sentence.

Task

farlu ≈ *... falls down*
ciksi ≈ *... explains ... (something)*
xajmi ≈ *... is funny, ... is amusing*

Close the right part of the table. Translate from Lojban:

ui ro mlatu cu melbi	*Yay, all cats are beautiful!*
.u'i do pu farlu	*Haha, you fell!*
.uu mi na kakne le nu ciksi	*Alas, I'm not able to explain*

Close the right part of the table. Translate to Lojban:

Yay, I understand!	**ui mi jimpe**
Haha, that's funny!	**.u'i ra xajmi**

Urging interjections

A special group of "imperative/hortative" interjections are used for instigations, commands, and requests. We have already encountered **.e'o**:

> **.e'o mi ciksi da poi mi cusku djica**
> *Please, let me explain what I want to say.*

.e'o ≈ *interjection: Please … (request)*

> **— au mi klama le nenri**
> **— .e'a**
> *— I'd like to enter.*
> *— Please do.*

.e'a ≈ *interjection: I allow, you may … (permission)*
le nenri ≈ *the interior, what is inside*

> **.e'ei do zukte**
> *C'mon, do it!*

.e'ei ≈ *interjection: Come on! (encouragement, instigation, provocation). Unofficial word*

> **.e'i do zutse doi le verba**
> *Sit down, child!*

.e'i ≈ *interjection: Do that! (command)*

> **.e'u do pinxe le jisra**
> *I suggest that you drink the juice. You'd better drink the juice.*

.e'u ≈ *interjection: Let's … (suggestion)*

Task

limna ≈ *… swims*
litru ≈ *… travels*
le korbi ≈ *the border, the edge*

Close the right part of the table. Translate from Lojban:

.e'o do sidju mi	*Please help me*
.e'u mi'o limna	*Let's swim*
.e'a do litru le korbi	*You may cross the border*

Close the right part of the table. Translate to Lojban:

Please tell me your name	**.e'o do cu tavla mi le du'u do mo'e cmene**
I suggest we dance	**.e'u mi'o dansu**

«**ko**» for quicker urges

> **do bajra**
> *You run.*

> **bajra**
> *Someone runs.*

In English, the verb itself is a command:

> *Run!*

In Lojban, **bajra** as a sentence means *Someone runs* (or *is running* / *was running*, depending on context). **bajra** can also mean a command, *Do run!*, but sometimes context isn't enough to determine if it's an urge to run or simply a statement that someone runs or is running.

The pronoun **ko** is used instead of **do** to make requests, suggestions, or commands:

> **ko bajra**
> *Run! Do run! Do it so that you run!*

ko is a more vague alternative to **do .e'o**, **do .e'u**, **do .e'i**.

It's perfectly fine to say something more precise, like:

> **do .e'o bajra**
> *You, please run!*

putting the emphasis in our politeness onto **do** (*you*).

By moving **ko** in a relation, the command/request is moved to that part. For example:

> **nelci ko**
> *Make it so you are liked by someone!*

nelci ≈ *... likes ... (something or someone)*

As you can see, we have to restructure this relation in English, which still sounds strange. However, you could use it in Lojban in the sense of *Try to make a good impression.*

Note that **prami** corresponds to English *to love*, while **nelci** corresponds to English *to like.*

We can even have several **ko** in one sentence:

> **ko kurji ko**
> *Take care of yourself.*

kurji ≈ *... takes care of ... (someone or something)*

Task

tinzga ≈ *... listens to ... (something)*

Close the right part of the table. Translate from Lojban:

ko klama mi	*Come to me!*
ko sutra tavla	*Talk quickly!*
ko na tinzga	*Don't listen!*

Close the right part of the table. Translate to Lojban:

Sleep!	**ko sipna**
Learn Lojban!	**ko tadni la lojban**
Take care of yourself!	**ko kurji ko**

Discursive interjections

> **au mi citka le salta .e ji'a le grute**
> *I'd like to eat the salad and the fruits too.*

ji'a ≈ *additionally, also, means that there exist others who also are the same (you in this case) or who do the same*
salta ≈ *... is some salad*
grute ≈ *... is a fruit*

> **mi si'a nelci do**
> `I too like you`

> **— mi nelci le'e mlatu**
> **— mi si'a nelci le'e mlatu**
> *— I like cats.*
> *— I like cats too (Me too).*

si'a ≈ *similarly, too, denotes that something is similar while being different in other unmentioned aspects*

Task

Close the right part of the table. Translate from Lojban:

mi ji'a nelci do	*I also like you*
mi si'a bajra	*I too run*

Close the right part of the table. Translate to Lojban:

I also study Lojban	**mi ji'a tadni la lojban**
I similarly like cats	**mi si'a nelci le mlatu**

Structure of interjections: «**nai**», «**sai**», «**pei**», «**dai**»

Interjections can consist of

1. the root, like **ui** (*Yay!*)
2. after it suffixes like **pei**, **dai**, **zo'o**:

    > **ui zo'o**

> *Yay! (kidding, I'm not actually happy)*

3. both the root and each of the suffixes can be modified with scalar particles like **nai**:

    > **ui nai**

> *Alas!*

<!-- -->

> **ui nai zo'o**
> *Alas! (kidding, I'm not serious in this feeling)*

<!-- -->

> **ui nai zo'o nai**
> *Alas, I'm not kidding, I feel unhappy*

Some examples of how scalar particles work.

🌼 **ju'o** = *interjection: I'm sure (certaintty)*
🌼 **ju'o cu'i** = *interjection: maybe, perhaps (uncertainty)*
🌼 **ju'o nai** = *interjection: I have no idea!*

Common examples of interjections:

🌼 an interjection made of a bare root:

> **ju'o le bruna co'i klama**
> *I'm sure, the brother has come.*

- the scalar particle **cu'i** turns a bare root interjection into its middle attitude:

> **ju'o cu'i le bruna co'i klama**
> *Maybe the brother has come, I'm not sure.*

- the scalar particle **nai** turns inttheyerjection into the opposite attitude:

> **ju'o nai le bruna co'i klama**
> *Maybe the brother has come, maybe not, I have no idea*

Similarly, **ui** is *Whee! Yay!*, while **ui nai** means *Alas!*

Precise meanings of interjections that are meaningful with their scalar particles **cu'i** and **nai** are given in the dictionary.

- the scalar particle **sai** denotes strong intensity of interjection:

> **.u'i sai**
> *Ha-ha-ha!*

Vocatives can also be modified with scalar particles:

> **ki'e sai do**
> *Thank you a lot!*

Suffixes are added after the root of the interjection (together with its scalar particles if we used them):

- the interjection suffix **pei** turns interjection into a question.

> **— .au pei do .e mi klama le zarci**
> **— .au cu'i**
> *— Do you want that you and I go to the store?*
> *— Meh, I don't have any preferences.*

> **— ie pei tu melbi**
> **— ie**
> *— That one is pretty, isn't it?*
> *— Yeah.*

- the interjection suffix **dai** shows feelings of others, not feelings of the speaker:

> **ui nai dai do na ku co'i jinga**
> *You must be sad, you haven't won.*

> **.a'u**
> *That's interesting!*

> **.a'u dai**
> *That must have been interesting for you!*

🌼 Bare interjections express the speaker's attitude. **ei do cliva** means not *You ought to leave*, but *I feel the obligation for you to leave*. **dai** shows that the speaker is empathizing someone else's feelings.

> **.ei dai do cliva**
> *You feel the obligation for yourself to leave.*

Note that interjections don't necessarily show attitude towards the speakers themselves. Instead, they express the speakers' attitude towards other things.

🌼 the interjection suffix **zo'o** marks the attitude as expressed not seriously:

> **.e'u zo'o do pinxe ti**
> *I suggest that you drink it (kidding).*

🌼 Suffixes can also be modified with scalar particles:

> **ie zo'o nai**
> *I agree (not kidding).*

🌼 **zo'o nai** is used to show that the information is not a joke:

> **zo'o nai ra pu klama la .paris.**
> \>
> *— I'm serious, he went to Paris.*

🌼 Suffixes can be used on its own:
  - ⚙️ **pei** when used alone asks for any interjection that the listener would feel appropriate:

> — **pei le lunra cu crino**
>
> >
>
> — **.ie nai**
>
> >
>
> — *The moon is green (what is your feeling about it?)*
>
> >
>
> — *I disagree.*

🌼 For other suffixes, it means that the root interjection **ju'a** (*I state*) was omitted:

> **zo'o do kusru**
> **ju'a zo'o do kusru**
> *You are cruel (kidding).*

ju'a ≈ *interjection: I state (don't confuse it with* ***ju'o*** *(I'm sure))*

Task

Close the right part of the table. Translate from Lojban:

ui nai do cliva	*Alas, you are leaving*
ie pei do nelci le mlatu	*Do you agree that you like cats?*
.u'i sai do cisma	*Hahaha, you're smiling!*
.u'i nai zo'o mi nelci do	*I like you (I'm saying this seriously, not for fun)*

Close the right part of the table. Translate to Lojban:

Maybe he is happy	**ju'o cu'i ra gleki**
That must have been interesting for you!	**.a'u dai**

Just for reference: interjections in tables

Here is a more comprehensive view: emotional, urging, and various other interjections by series.

.au *Wish ...*	**.ai** *I'm gonna...*	**.ei** *It should be...*	**.oi** *Ouch!*
.au cu'i *meh* indifference	**.ai cu'i** indecision	**.ei cu'i**	**.oi cu'i**
.au nai *Nuh-uh!* disinclination, reluctance	**.ai nai** unintentionally, accidentally	**.ei nai** freedom, how things might need not be	**.oi nai** pleasure

Emotion				
ua *"wah" as in "won", "once"* *Aha! Eureka!*	**ue** *"weh" as in "wet"* *What a surprise!*	**ui** *"weeh" as "we"* *hooray!*	**uo** *"woh" as in "wombat", "what"* *voila!*	**uu** *"wooh" as "woo"* *oh poor thing*
ua cu'i	**ue cu'i** *I'm not really surprised*	**ui cu'i**	**uo cu'i**	**uu cu'i**
ua nai *Duh! I don't get it!* confusion	**ue nai** expectation, lack of surprise	**ui nai** *Alas!* feeling unhappy	**uo nai** feeling incomplete	**uu nai** *Mwa ha ha!* cruelty

Emotion				
ia *"yah" as in "yard"* *I believe*	**ie** *"yeh" as in "yes"* *aye! agreed!*	**ii** *"yeeh" as in "hear ye"* *yikes!*	**io** *"yoh" as in "yogurt"* *respect*	**iu** *"yooh" as in "cute, dew"* *I love it*
ia cu'i	**ie cu'i**	**ii cu'i**	**io cu'i**	**iu cu'i**
ia nai *Pshaw!* disbelief	**ie nai** disagreement	**ii nai** *I feel safe*	**io nai** disrespect	**iu nai** hatred

Emotion				
.u'a *"oohah" as in "two halves"* *gain*	**.u'e** *"ooheh" as in "two heads"* *what a wonder!*	**.u'i** *"ooheeh" as in "two heels"* *hahaha!*	**.u'o** *"oohoh" as in "two hawks"* *courage*	**.u'u** *"oohooh" as in "two hoods"* *sorry!*
.u'a cu'i	**.u'e cu'i**	**.u'i cu'i**	**.u'o cu'i** shyness	**.u'u cu'i**
.u'a nai loss	**.u'e nai** *Pff!* commonplace	**.u'i nai** *Blah* weariness	**.u'o nai** cowardice	**.u'u nai**

Attitude				
.i'a *"eehah" as in "teahouse"* *ok, I accept it*	**.i'e** *"eeheh" as in "teahead"* *I approve!*	**.i'i** *"eeheeh" as in "we heat"* *I'm with you in that*	**.i'o** *"eehoh" as in "we haw"* *thanks to it*	**.i'u** *"eehooh" as in "we hook"* *familiarity*
.i'a cu'i	**.i'e cu'i** non-approval	**.i'i cu'i**	**.i'o cu'i**	**.i'u cu'i**
.i'a nai resistance	**.i'e nai** *Boo!* disapproval	**.i'i nai** feeling antagonism	**.i'o nai** envy	**.i'u nai** unfamiliarity

Attachment to situation				
.a'a *"ahah" as "aha"* *I'm listening*	**.a'e** *"aheh"* *alertness*	**.a'i** *"aheeh" as in "Swahili"* *oomph!* effort	**.a'o** *I hope*	**.a'u** *hm, I wonder...*
.a'a cu'i inattentively	**.a'e cu'i**	**.a'i cu'i** no special effort	**.a'o cu'i**	**.a'u cu'i** *Ho-hum* disinterest
.a'a nai avoiding	**.a'e nai** *I'm tired*	**.a'i nai** repose	**.a'o nai** *Gah!* despair	**.a'u nai** *Eww! Yuck!* repulsion

Urging				
.e'a *"ehah"* *you may*	**.e'ei** *"ehey"* *come on, do it!*	**.e'i** *"eheeh"* *do it!*	**.e'o** *"ehoh"* *please, do it*	**.e'u** *"ehooh"* *I suggest*
.e'a cu'i	**.e'ei cu'i**	**.e'i cu'i**	**.e'o cu'i**	**.e'u cu'i**
.e'a nai prohibiting	**.e'ei nai** expressing discouragement, demoralization	**.e'i nai**	**.e'o nai** offering, granting	**.e'u nai** warning, disadvise

Emotion				
.o'a *"ohah"* *pride*	**.o'e** *"oheh"* *I feel it at hand*	**.o'i** *"oheeh"* *danger!*	**.o'o** *"ohoh" as in "sawhorse"* *patience*	**.o'u** *"ohooh"* *relaxation*
.o'a cu'i modesty, humility	**.o'e cu'i**	**.o'i cu'i**	**.o'o cu'i** mere tolerance	**.o'u cu'i** composure, balance
.o'a nai *How embarrassing. It makes me ashamed.*	**.o'e nai** distance	**.o'i nai** rashness, recklessness	**.o'o nai** impatience, intolerance	**.o'u nai** stress, anxiety

Notice how an emotion changes to its opposite when using **nai**, and to the middle emotion when using **cu'i**.

Why are some cells of interjections with **cu'i** and **nai** empty? Because English lacks concise ways of expressing such emotions.

Moreover, many of these interjections are rarely used.

Task

Close the right part of the table. Translate from Lojban:

.ei mi tadni	*I should study*
.ai mi cliva le tcadu	*I'm going to leave the city*
.au nai mi klama	*I'm reluctant to go*

Close the right part of the table. Translate to Lojban:

I feel safe	**ii nai**
I approve!	**.i'e**
I'm curious about it	**.a'u**

Combining interjections

> **iu ui nai**
> *Unhappily in love.*

> **ue ui do jinga**
> *Oh, you won! I'm so happy!*

jinga ≈ … *wins*

In this case, the victory was improbable, so I'm surprised and happy at the same time.

Interjections (unlike scalar particles and interjection suffixes) don't modify each other:

> **ue ui do jinga**
> **ui ue do jinga**
> *Oh, you won! I'm so happy!*

Here, two interjections modify the same construct (the whole sentence) but they don't modify each other so their order is not important.

> **pei .u'i le gerku cu sutra plipe**
> *(What do you feel?) Heh, the dog is quickly jumping.*

Here, **pei** is used alone and doesn't modify **.u'i**, which is put after it.

Task

Close the right part of the table. Translate the sentences on the left from Lojban.

.ue .ui mi jinga	*Oh, I won! I'm so happy!*
ie .ui le gerku cu melbi	*Yes! And I'm happy that the dog is beautiful!*

Close the right part of the table. Translate the sentences on the left to Lojban.

Oh! And I agree that you are smart!	**.ue .ie do stati**
I'm happy and surprised that you came!	**.ui .ue do klama**

Forgot to put an interjection at the beginning?

> **do pu sidju mi ui**
> *You help me (yay!)*

ui modifies only the pronoun **mi** putting the attitude only to *me*.

> **ui do pu sidju mi**
> *Yay, you helped me.*

What if we forgot to add **ui** at the beginning of this sentence?

We can explicitly label the relation as complete with **vau** and then put the interjection:

> **do pu sidju mi vau ui**
> *You helped me, yay!*

Task

Close the right part of the table. Translate the sentences on the left from Lojban.

mi citka le plise vau ui	*I eat the apple, yay!*
mi pinxe le djacu vau .ue	*I drink the water, wow!*

Close the right part of the table. Translate the sentences on the left to Lojban.

I see the dog, oh!	**mi viska le gerku vau .ue**
I go home, yay!	**mi klama le zdani vau ui**

Lesson 4. Practice

Now we know the most crucial parts of the grammar and can start accumulating new words through situations.

Colloquial expressions

Here are some common structures used by fluent speakers of Lojban, along with examples illustrating their usage.

They may help you get used to colloquial Lojban more quickly.

🌼 **.i ku'i** ≈ *But…*

> **mi djuno .i ku'i mi na ku djica**
> *I know. But I don't want.*

🌼 **mi djica le nu** ≈ *I want that …*

> **mi djica le nu mi sipna**
> *I want to sleep.*
> `I want that I sleep.`

🌼 **mi djuno le du'u ma kau** ≈ *I know what/who …*

> **mi djuno le du'u ma kau smuni zo coi**
> *I know what is the meaning of* ***coi****.*

smuni ≈ *… means … (text)*

> **mi na ku djuno**
> *I don't know.*

🌼 **jinvi le du'u** ≈ *… has an opinion that …*

> **mi jinvi le du'u la .lojban. cu zabna**
> *I think that Lojban is cool.*

zabna ≈ *… is cool, … is nice*

> **coi ro do**
> *Hello, everyone!*

> **co'o ro do**
> *Bye, everyone!*

🌼 **jinvi le du'u** ≈ *... has an opinion that ...*

> **ai mi cliva .i co'o**
> *I'm going to leave. Bye!*

🌼 **.ei mi** ≈ *I should ...*

> **.ei mi citka .i co'o**
> *I should eat. Bye!*

🌼 **ca le nu** ≈ *when ...*

> **mi pu bebna ca le nu mi citno**
> *I was stupid when I was young.*

bebna ≈ *... is foolish, ... is stupid*
citno ≈ *... is young*

🌼 **va'o le nu** ≈ *provided that ...*

> **va'o le nu do djica kei mi ka'e ciksi**
> *If you want I can explain.*

va'o ≈ *modal term: provided that ...*

🌼 **simlu le ka** ≈ *... seems to be ...*

> **simlu le ka zabna**
> *It seems to be cool.*

simlu ≈ *... seems to be ... (property)*

🌼 **ca le cabdei** ≈ *today*

> **pu ce'e ca le cabdei mi surla**
> *Today I took a rest.*

le cabdei ≈ *today*
surla ≈ *... relaxes*

🌼 **mi nelci** ≈ *I like*

> **mi nelci le mlatu**
> *I like the cat.*

le nu pilno ≈ *using …*

> **na ku le nu pilno le vlaste cu nandu**
> *Using dictionaries isn't hard.*

le vlaste ≈ *the dictionary, the dictionaries*
nandu ≈ *… is difficult*

kakne le ka ≈ *capable of …*

> **xu do kakne le ka sutra tavla**
> *Are you able to talk quickly?*

tavla fi ≈ *talk about …*

> **.e'ei tavla fi le skami**
> *Let's talk about computers!*

le skami ≈ *the computer, the computers*

mutce le ka ≈ *very …*

> **mi mutce le ka se cinri**
> *I am very interested.*

mutce ≈ *… is very, … is much*
se cinri ≈ *… is interested*

troci le ka ≈ *… tries to …*

> **mi troci le ka tavla fo la .lojban.**
> *I am trying to talk in Lojban.*

rinka le nu ≈ *(event) leads to …*

> **le nu mi tadni la .lojban. cu rinka le nu mi jimpe fi do**
> *That I study Lojban makes me understand you.*

rinka ≈ *… (event) causes … (event)*

gasnu le nu ≈ *(agent) causes …*

> **mi pu gasnu le nu le skami pe mi co'a spofu**
> *I made it so that my computer got broken.*

gasnu ≈ *... (agent) makes ... (event) happen*
spofu ≈ *... is broken, ... doesn't work*

🌼 **xusra le du'u** ≈ *assert that ...*

> **xu do xusra le du'u mi na ku drani**
> *Do you state that I am not right?*

xusra ≈ *... asserts that ... (proposition)*
drani ≈ *... is right, ... is correct*

🌼 **kanpe le du'u** ≈ *expect (in the sense of assessment, prediction) that ...*

> **mi na ku kanpe le du'u mi jinga**
> *I don't expect myself to win.*

kanpe ≈ *... expects that ... (event)*

A simple dialogue

> **coi la .alis.**
> *Hi, Alice!*

> **coi la .doris.**
> *Hi, Doris!*

> **do mo**
>
> \>
>
> *How are you?*

> **mi kanro .i mi ca tadni la .lojban. .i mi troci le ka tavla do**
> *I'm healthy. I now study Lojban. I'm trying to talk to you.*

kanro ≈ *to be healthy*
tadni ≈ *to study ... (something)*
troci ≈ *to try ... (to do something)*
tavla ≈ *to talk [to someone]*

> **zabna .i ma tcima ca le bavlamdei**
> *Good. What will be the weather tomorrow?*

tcima ≈ *… is the weather*
le bavlamdei ≈ *tomorrow day (day as an event)*

> **mi na ku djuno .i le solri sei mi pacna**
> *I don't know. It'll be sunny, I hope.*

djuno ≈ *to know (fact)*
le solri ≈ *the sun*

Note that **le solri cu tcima** (literally *the sun is the weather*) is the way of using **tcima** in Lojban.

sei ≈ *comment starts*
pacna ≈ *to hope (for some event)*

> **mi jimpe**
> *I understand.*

> **co'o**
> *Goodbye.*

Human senses

> **ju'i la .alis.**
> *Hey, Alice!*

ju'i ≈ *vocative that draws attention: Hey! Psst! Ahem! Attention!*

> **re'i**
> *Listening.*

re'i ≈ *vocative: I'm ready to receive information.*

> **xu do viska ta**
> *Do you see that thing near you?*

In English we say *Can you see*, in Lojban we say just **xu do viska** — *You see?*

Relations describing perception will be explained after the dialogue.

> **viska .i plise**
> **.i le plise cu xunre .i skari le ka xunre**
> *Yes. It is an apple.*
> *The apple is red. It's colored red.*

> **xu do viska le tarmi be le plise**
> *Can you see the form of the apple?*

tarmi ≈ *... is the form of ... (something)*

> **viska .i le plise cu barda**
> *Yes. The apple is big.*

> **xu do jinvi le du'u le plise ca makcu**
> *Do you think that the apple is ripe?*

jinvi ≈ *... has opinion that ... (proposition)*
makcu ≈ *... is ripe*

> **.au mi zgana le sefta be le plise**
> *I'd like to palpate it.*

sefta ≈ *... is a surface of ... (something)*

> **.i ua xutla**
> *Oh, it is smooth.*

xutla ≈ *... is smooth*

> **.i mi pacna le nu makcu ie**
> *I hope that it is ripe, yeah.*

> **panci pei**
> *What about the smell?*

panci ≈ *... is an odor of ... (something)*

> **.i .e'o do sumne le plise**
> *Please, smell it.*

sumne ≈ *... smells ... (odor)*

le xrula cu panci
It smells of flowers.

.i .au mi zgana le vrusi be le plise
I'd like to taste the apple.

vrusi ≈ *... is the taste of ... (something)*

.i .oi nai le kukte cu vrusi
Yum, it tastes sweet.

.i .oi
Oh-no.

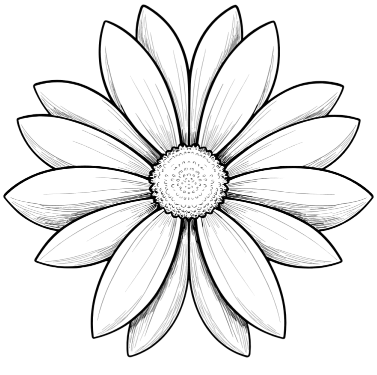
le xrula ≈ *the flower(s)*

ma pu fasnu
What happened?

fasnu ≈ *... (event) happens*

mi pu farlu
I fell down.

farlu ≈ *... falls down to ...*



xrula
flower

xu do cortu
Do you feel pain?

cortu ≈ *... has pain in ... (body part)*

cortu .i mi cortu le cidni
Yes, I feel pain in the knee.

le cidni ≈ *the knee, the knees*

> **.i na ku ckape**
> *It's not dangerous.*

ckape ≈ *… is dangerous*

> **.i ca ti mi ganse le nu da vi zvati**
> *And now I can sense a presence of someone here.*

ganse ≈ *… senses … (stimulus)*

> **doi la .alis. do cliva .e'o sai**
> *Alice, please, return immediately!*

> **ko denpa .i mi ca tirna le sance**
> *Wait, I can hear some sound.*

denpa ≈ *… waits for … (event)*
le sance ≈ *the sound, the sounds*

> **le sance be ma**
> *A sound of what?*

> **mi pu tirna le nu le prenu cu tavla**
> *I heard a person talking.*

> **.i ca ti mi zgana le lenku**
> *Now I feel cold.*

le lenku ≈ *the cold*

> **ju'i la .alis.**
> *Hey, Alice!..*

In this dialogue, the most important concepts for human senses were touched. In the following sections we shall explain their place structures, along with additional relations and examples.

Vision

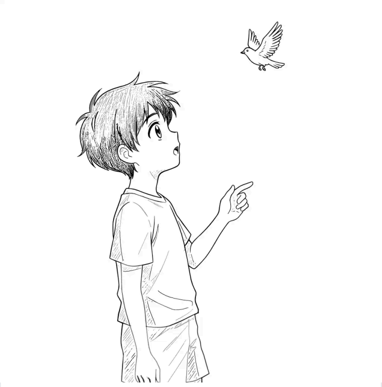
viska ≈ *x_1 sees x_2 (object, form, color)*
skari ≈ *x_1 is an object with the color x_2 (property)*
tarmi ≈ *x_1 is the form of x_2*
cukla ≈ *x_1 is round (in form)*

mi viska le plise
I see the apple.

mi viska le tarmi be le plise
I see the form of the apple.

.i le plise cu se tarmi le cukla
The apple is round.

.i le plise cu skari le ka xunre
The apple is colored red.



le prenu co'a viska le cipni
The person notices, begins to see the bird.

Note: we can both say *see the form of the apple* and *see the apple.*

Hearing

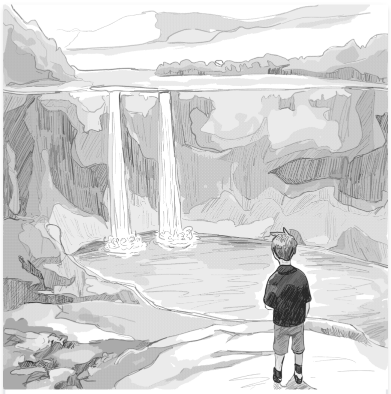
tirna ≈ *x_1 hears x_2 (object or sound)*

mi tirna le palta
I hear the plate

le palta ≈ *the plate*

mi tirna le sance be le palta poi ca'o porpi
I hear the sound of a plate that is falling.

porpi ≈ *... breaks, ... shatters*



le prenu cu tirna lei djacu
The person hears the waters.

.i le palta cu se sance le cladu
It sounds loud.

cladu ≈ *x_1 is loud*
tolycladu ≈ *x_1 is quite in sound*
tonga ≈ *x_1 is a tone of x_2*

We can use **cladu** and similar words directly:

> **mi tirna le cladu**
> *I hear something loud.*

> **mi tirna le tolycladu**
> *I hear something quite in sound.*

> **mi tirna le tonga be le palta poi farlu**
> *I hear the tone of the plate falling down.*

Similarly to vision, we can say *hear a sound* and *hear something producing the sound*:

> **— ma sance gi'e se tirna do**
> *— What sound do you hear?*

> **— le zgike**
> *— The music.*

le zgike ≈ *the music*

> **— do tirna le sance be ma**
> *— You hear a sound of what?*

> **— le plise poi co'i farlu**
> *— The apple that has fallen down.*

Perception in general

We can also use the vague **ganse** — *to sense stimulus.*

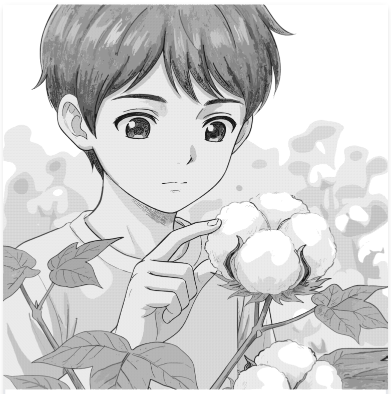
ganse ≈ *x_1 senses stimulus x_2 (object, event) by means x_3*
ganse le glare ≈ *to feel the heat*
ganse le lenku ≈ *to feel the cold*

> **mi ganse le plise**
> *I sense the apple.*

For observing our perceptions we can use **zgana**:

mi zgana le tarmi be le plise
I observe the form of an apple.

.i le plise cu se tarmi le'e cukla
The apple is round.



le prenu cu zgana le sefta be le xrula
The person palpates the surface of the flower.

zgana ≈ x_1 *notices, observes, watches* x_2. *Not limited to vision*

Some arguments can be used with different sensory relations. For example, we can

viska le sefta ≈ *to see the surface*
zgana le sefta ≈ *to palpate the surface*

Sense of smell

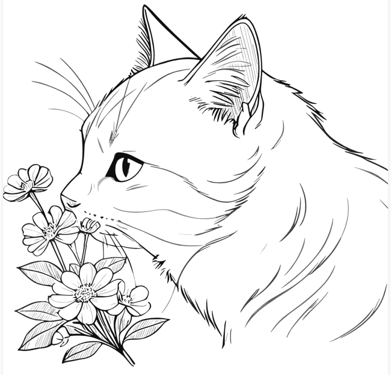
sumne ≈ x_1 *smells* x_2 *(odor)*
panci ≈ x_1 *is an odor of* x_2 *(object)*

mi sumne le xrula
I smell the flower.

mi sumne le panci be le za'u xrula
I smell the odor of flowers.

mi sumne le panci be le plise
I smell the odor of the apple.

.i le plise cu se panci le xrula
The apple smells of flowers.



le mlatu cu sumne le xrula
The cat smells the flower.

Note that English can be confusing when it comes to distinguishing between smelling an odor and smelling an object that produces that odor. We say *to smell the apple*, *the apple smells of flowers (has the scent of flowers)*. This two-fold distinction is important because an apple produces aromatic particles that are distinct from the apple itself. The same applies to a falling plate and its sound — we may not want to mix them.

In Lojban, we can easily separate these cases, as demonstrated in the examples above.

Sense of taste

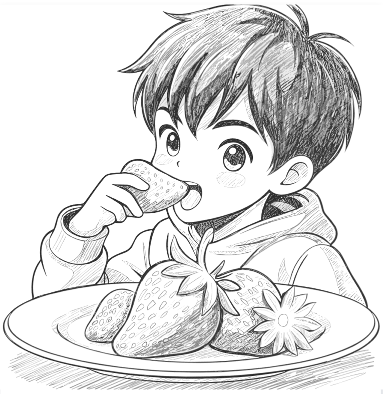
vrusi ≈ x_1 *is a taste of* x_2

> **mi zgana le vrusi be le grute**
> *I taste the apple.*
> `I observe the taste of the fruit`

le grute ≈ *the fruit, the fruits*

> **.i le plise cu se vrusi le titla**
> *The apple tastes sweet.*

titla ≈ *... is sweet, ... is a sweetie*



le prenu cu zgana le vrusi be le grute
The person tastes, observes the taste of the fruit.

Sense of touch

sefta ≈ *x_1 is a surface of x_2*

> **mi zgana le sefta be le plise**
> *I palpate, touch-feel the surface of the apple.*

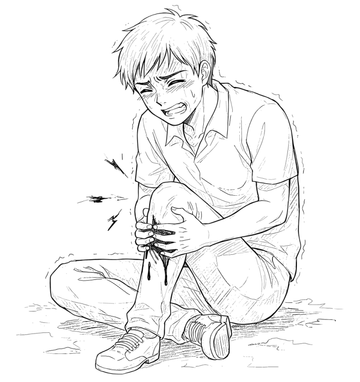
> **.i le plise cu se sefta le xutla**
> *The apple has a smooth surface.*

Pain

> **mi cortu le birka be mi**
> *I feel pain in my arm.*
> *My arm hurts.*

> **mi cortu le cidni**
> *I feel pain in my knee, my knee hurts.*

cortu ≈ *x_1 has pain in organ x_2, which is a part of x_1's body*
cidni ≈ *x_1 is a knee of x_2*



mi cortu le cidni be mi
My knee hurts.

Colors

Different languages use different sets of words to denote colors. Some languages simply refer to colors by referencing other "prototype" objects with similar colors, shades, or forms. In Lojban, we use all the options:

ti xunre
This is red.

xunre ≈ *x_1 is red*

ti skari le ka xunre
This is red. This has the color or red things.

ti skari le ka ciblu
This has the color of blood.

le ciblu ≈ *the blood*

Here are some color examples that align with the English language. You can also use other color words, reflecting the way how speakers of different languages typically categorize things.

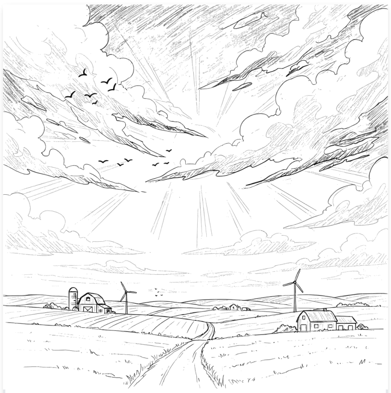
le tsani cu xunre ca le cerni
The sky is red in the morning.

le tsani ≈ *the sky*
le cerni ≈ *the morning*

.i le solri cu simlu le ka narju
The sun seems to be orange.

le solri ≈ *the Sun*

simlu ≈ *x_1 looks like x_2 (property of x_1)*
narju ≈ *… is orange*



tsani .i solri
The sky. The sun.

.i le pelxu xrula cu se farna le solri
Yellow flowers are oriented towards the Sun.

pelxu ≈ *… is yellow*
se farna ≈ *x_1 is oriented towards x_2*
farna ≈ *x_1 is the direction of x_2*

.i le pezli be le tricu cu crino
Leaves of trees are green.

pezli ≈ *x_1 is a leaf of x_2*

le tricu ≈ *tree*

crino ≈ *… is green*

> **.i mi zvati le korbi be le blanu xamsi**
> *I am at the border of a blue sea.*

zvati ≈ *… is present at …*

korbi ≈ *x_1 is the border of x_2*

le xamsi ≈ *sea*

blanu ≈ *… is blue*

> **.i mi catlu le prenu noi dasni le zirpu taxfu**
> *I look at a person who wears the violet dress.*

dasni ≈ *x_1 wears x_2 (something)*

le taxfu ≈ *the garment, the dress*

zirpu ≈ *… is violet, … is purple*

xunre ≈ *x_1 is red*

narju ≈ *x_1 is orange*

pelxu ≈ *x_1 is yellow*

crino ≈ *x_1 is green*

blanu ≈ *x_1 is blue*

zirpu ≈ *x_1 is violet*

Other useful relations:

> **le gusni be le manku pagbu pu na ku carmi**
> *The light illuminating dark areas was not intense.*

le pagbu ≈ *the part, the parts*

> **le gusni be fi le solri pu carmi**
> *The light from the Sun was intense.*

gusni ≈ *x_1 is a light illuminating x_2 from the light source x_3*

carmi ≈ *x_1 is intense, bright*

manku ≈ *x_1 is dark*

«**sipna**» — ‘*to sleep*’, «**sanji**» — ‘*to be aware*’

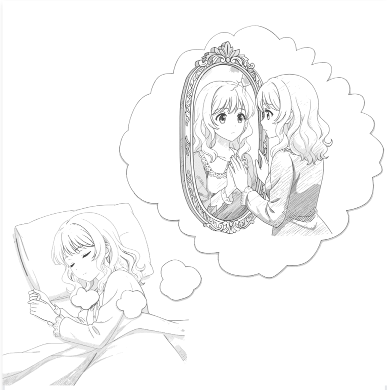
The following examples illustrate some basic aspects of the mind:

> **pu ku mi cikna gi'e ku'i na ganse le nu do klama**
> *I was awake but didn't sense your arrival.*

> **pu ku ca le nu mi sipna kei mi ganse ku'i le nu do klama**
> *While I was asleep I nevertheless sensed you coming.*

> **pu ku mi ca'o sipna gi'e sanji le nu mi sipna**
> *I was sleeping and I was aware that I was sleeping.*
> *I was having a lucid dream.*

> **mi sanji le nu mi sanji**
> *I am aware that I'm aware.*
> *I am self-conscious.*



mi ca'o sipna gi'e sanji le nu mi sipna
I sleep and I'm aware that I sleep.

sipna ≈ *x_1 sleeps*
cikna ≈ *x_1 is awake*
ganse ≈ *observer x_1 senses, notices some stimulus (event) by mrans x_3*
sanji ≈ *x_1 is conscious, aware of x_2 (event)*

ganse doesn't imply any mental processing; it just describes perception, recognition, detection of some stimulus via sensory channels (specified in x_3).

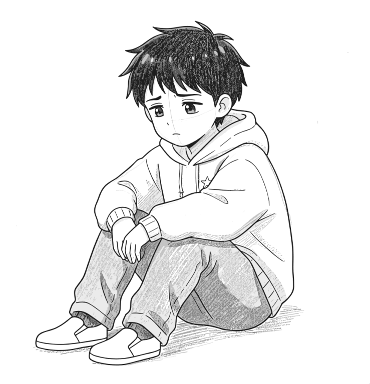
On the other hand, **sanji** describes passive sensing, which involves mental processing but not necessarily via sensory inputs at all (some mental relationships are not detected by the senses).

Emotions: «**cmila**» — ‘*to laugh*’, «**cisma**» — ‘*to smile*’

> **coi**
> **.i ma nuzba**
> **.i do simlu le ka badri**
> *Hi.*
> *What are the news?*
> *You seem to be sad.*

nuzba ≈ *… is news about … (something)*
badri ≈ *x_1 is sad about x_2*

mi steba le nu le bruna be mi co'a speni le ninmu
I am frustrated that my brother gets married the woman.



le prenu cu simlu lo ka badri
The person seems to be sad.

le bruna ≈ *the brother, the brothers*
steba ≈ x_1 *feels frustration about* x_2
speni ≈ *... is married to ... (someone)*

mi se cfipu
.i xu do na ku gleki le nu le bruna co'a speni
I am confused.
You are not happy that the brother gets married?

se cfipu ≈ x_1 *is confused about* x_2
gleki ≈ x_1 *is happy about* x_2

ie
.i le ninmu cu pindi
.i le ninmu na ku ponse le jdini
.i mi na ku kakne le ka ciksi
Yeah.
The woman is poor.
She doesn't have money.
I am not able to explain.

pindi ≈ *... is poor*
le jdini ≈ *the money*
ponse ≈ *... owns ... (something)*
kakne ≈ x_1 *is capable of* x_2 *(property of* x_1*)*
ciksi ≈ *... explains ... (something)*

ua
.i la'a do kanpe le nu le ninmu na ku prami le bruna
Ah!
Probably, you expect that the woman doesn't like the brother.

la'a ≈ *interjection: probably, it's likely*
kanpe ≈ x_1 *expects* x_2 *(some event)*

> **mi terpa le nu le ninmu ba tarti lo xlali**
> **.i ku'i le bruna cu cisma ca ro nu ri tavla le ninmu**
> **.i ri ta'e cmila**
> *I am afraid that she will behave bad.*
> *But the brother smiles every time he talks to her.*
> *And she usually laughs.*

terpa ≈ x_1 *fears* x_2
tarti ≈ *… behaves as … (property)*
lo xlali ≈ *something bad*
cisma ≈ x_1 *smiles*
cmila ≈ x_1 *laughs*

> **mi kucli le nu le ninmu cu prami le bruna**
> *I wonder whether the girl likes the brother.*

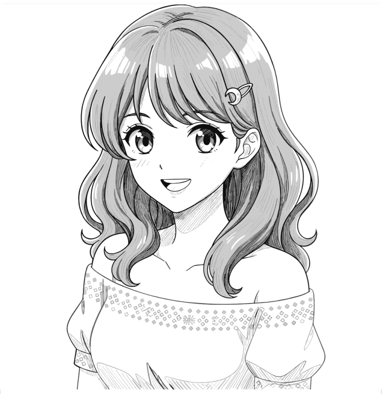
kucli ≈ x_1 *is curious of* x_2

> **mi na ku kanpe**
> *I don't expect that.*

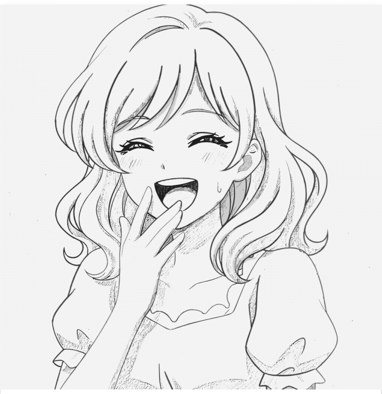
kanpe ≈ x_1 *expects that* x_2 *(event) happens*

> **ko surla**
> *Relax!*

surla ≈ x_1 *relaxes by doing* x_2 *(property of* x_1*)*
cinmo ≈ x_1 *feels emotion* x_2 *(property of* x_1*)*
nelci ≈ x_1 *likes* x_2
manci ≈ x_1 *feels awe or wonder about* x_2
fengu ≈ x_1 *is angry about* x_2
xajmi ≈ x_1 *thinks* x_2 *is funny*
se zdile ≈ x_1 *is amused by* x_2
zdile ≈ x_1 *is amusing*
djica ≈ x_1 *desires* x_2
pacna ≈ x_1 *hopes that* x_2 *is true*



le prenu cu cisma
The person smiles.



ra cmila
He/she laughs.

Health

> **ca glare**
> *It's hot now.*

glare ≈ *... is hot*

> **.i ku'i mi ganse le lenku**
> *But I feel cold.*

ku'i ≈ *interjection: but, however*

> **xu do bilma**
> *Are you ill?*

bilma ≈ *... is ill*

> **bilma**
> *Yes.*

> **xu do bilma fi le vidru**
> **.i .e'u do klama le mikce**
> *Do you have a virus? I suggest you go to a doctor.*

le vidru ≈ *the virus*
le mikce ≈ *doctor*

> **mi bilma le ka cortu le galxe**
> **.i mi sruma le du'u mi bilma fi la .zukam.**
> *My symptoms is that my throat aches.*
> *I assume that I have a cold.*

le galxe ≈ *the throat*
cortu ≈ x_1 *has pain in organ* x_2*, which is a part of* x_1*'s body*
sruma ≈ *... assumes that ... (proposition)*
la .zukam. ≈ *common cold (disease)*

> **ko kanro**
> *Get well!*

kanro ≈ x_1 *is healthy*

> **ki'e**
> *Thanks.*

bilma ≈ *x_1 is ill or sick with symptoms x_2 from disease x_3*

Note that the second place of **bilma** describes symptoms, such as **le ka cortu le galxe** = *to have pain in the throat*. The third place indicates the name of the disease causing those symptoms. Obviously, you may wish to skip filling these places of **bilma**.

Human body

> **le nanmu cu se xadni le clani**
> *The man has a long body. The man is tall.*

se xadni ≈ *x_1 has the body x_2*
xadni ≈ *x_1 is the body of x_2*

> **mi pu darxi fi le stedu .e le zunle xance**
> **.i ca ti le degji be le xance cu cortu**
> **.i ku'i le pritu xance na ku cortu**
> *I hit something with the head and the left hand. Now the finger of the hand hurts. But the right hand doesn't hurt.*

darxi ≈ *x_1 hits x_2 with x_3*
le stedu ≈ *the head*
le xance ≈ *the hand, the hands*
zunle ≈ *… is to the left of … (something) as viewed by … (someone)*
pritu ≈ *… is to the right of … (something) as viewed by … (someone)*

Most of words for parts of body have the same place structure as **xadni**:

stedu ≈ *x_1 is a head of x_2*

However, some describe smaller parts:

degji ≈ *x_1 is a finger/toe on part x_2 (hand, foot)*

> **le degji be le xance be le ninmu cu clani**
> *The woman's fingers are long.*
> `Digits of hand of the woman are long`

clani ≈ *… is long*

> **mi viska le jamfu .i ku'i mi na ku viska le degji be le jamfu**
> *I can see the feet. But I don't see its toes.*

le jamfu ≈ *the foot, the feet*
janco ≈ x_1 *is a joint attaching limbs* x_2
ctebi ≈ x_1 *is a lip of mouth, orifice* x_2
cidni ≈ x_1 *is a knee or elbow of limb* x_2

Kinship

> **coi do mi se cmene zo .adam.**
> **.i ti du la .alis.**
> **.i ri speni mi**
> *Hello to you. I am called "Adam".*
> *This is Alice.*
> *She is my wife.*

se cmene ≈ *… is called … (name)*
speni ≈ *… is married to … (someone)*

> **pluka fa le nu penmi do**
> **.i .e'o do klama le nenri be le dinju**
> *Pleasure to meet you.*
> *Please, come into the house.*

pluka ≈ *… is pleasant*
penmi ≈ *… meets … (someone)*
le nenri ≈ *the interior*
le dinju ≈ *the building, the house*

> **ki'e**
> *Thanks.*

> **.i .au gau mi do co'a slabu le lanzu be mi**
> **.i le re verba cu panzi mi**
> **.i le tixnu cu se cmene zo .flor.**
> **.i la .karl. cu du le bersa**
> *I'd like you to get to know my family.*
> *The two children are my offspring.*
> *The daughter is called "Flor".*
> *Karl is the son.*

gau ≈ *modal term: caused by … (agent)*
slabu ≈ *… is familiar with … (something)*
le lanzu ≈ *the family*
panzi ≈ *… is a child of … (someone)*
le tixnu ≈ *the daughter, the daughters*
le bersa ≈ *the son, the sons*

la .karl. cu mutce citno
Karl is very young.

ie
Yeah.

.i ji'a mi se tunba re da noi ca na ku zvati le dinju
.i sa'e mi se tunba le pa bruna .e le pa mensi
Also I have two siblings who are now not in the house.
To be precise, I have a brother and a sister.

ji'a ≈ *interjection: additionally, also*
tunba ≈ *… is a sibling of … (someone)*
sa'e ≈ *interjection: to be precise*
mensi ≈ *… is a sister of … (someone)*

ue
.i le lanzu be do cu barda
Wow!
Your family is large.

je'u pei
Really?

je'u ≈ *interjection: truly*

The words for names of family members have a similar place structure:

speni ≈ *x_1 is a husband/wife of x_2*

co'a speni means *to get married*:

mi co'a speni la .suzan.
I married Susan.

lanzu ≈ *x_1 is a family including x_2*
panzi ≈ *x_1 is a child of x_2*
tixnu ≈ *x_1 is a daughter of x_2*
bersa ≈ *x_1 is a son of x_2*
tunba ≈ *x_1 is a sibling (brother/sister) of x_2*
bruna ≈ *x_1 is a brother of x_2*
mensi ≈ *x_1 is a sister of x_2*

Note that **panzi** can be applied to grown-up children:

verba ≈ *x_1 is a child, immature person of age x_2 (event)*
panzi ≈ *x_1 is a child, offspring of x_2*

verba doesn't necessarily talk of the child as of a family member:

> **le bersa be le pendo be mi cu verba le nanca be li ci**
> *The son of my friend is a child of three years old.*

citno ≈ *x_1 is young*
laldo ≈ *x_1 is old, aged*

Pairs of traditional words (for humans only):

le ninmu ≈ *woman / women*
le nanmu ≈ *male man / male men*
le nixli ≈ *the girls*
le nanla ≈ *the boys*
le remna ≈ *the humans*

Note that **le prenu** means *the people* or *the persons*. In fairy tales and fantastic stories, not only humans (**lo'e remna**) but also animals or alien beings from other planets can be considered persons.

These words can be used to describe genetically determined sex (both in animals and humans) as opposed to gender:

le fetsi ≈ *the female*
le nakni ≈ *male*

These word describe parental (not necessarily genetic) relations:

mamta ≈ *x_1 is a mother of x_2, x_1 acts maternally*
patfu ≈ *x_1 is a father of x_2*
rirni ≈ *x_1 is a parent of x_2, x_1 raises x_2*

In the shop

> **ue**
> **do pu te vecnu le laldo karce**
> *Wow!*
> *You bought an old car.*

te vecnu ≈ *... buys ... (something)*
laldo ≈ *... is old*

> **ie**
> **.i ku'i mi na ku pu pleji le so'i jdini**
> *Yeah.*
> *But I didn't pay much money.*

pleji ≈ *... pays ... (payment) to ... (recipient)*
so'i ≈ *many*

> **ma pu jdima le karce**
> *What was the price of the car?*

jdima ≈ *... is the price of ... (something)*

> **mi pu pleji le rupnusudu be li pa ki'o le kagni le karce**
> *I paid a thousand dollars to the company for the car.*

rupnusudu ≈ *... costs ... (number) US dollars*
le kagni ≈ *the company, the companies*

> **mi pu vecnu le laldo karce pe mi le pendo be mi**
> **.i le pendo pu pleji le rupne'uru be li re ki'o mi le karce**
> *I sold an old car of mine to my friend.*
> *The friend paid 2 000 euro for the car.*

vecnu ≈ *... sells ... (something) to ... (recipient)*
rupne'uru ≈ *... costs ... (number) euro*
ki'o ≈ *comma between digits so that* ***pa ki'o*** *is 1, 000 (one thousand)*

Shop, buildings

> **ma stuzi le zdani be do**
> *What is the location of your home?*

stuzi ≈ *... is a place, ... is a location*

> **le korbi be le cmana**
> **.i mi se zdani le nurma**
> **.i le zdani be mi cu barda dinju gi'e se sledi'u ci da .e le vimstu .e le lumstu**
> *The edge of the mountain.*
> *I live in the country.*
> *My home is a big house and has three rooms plus a toilet plus a bathroom.*

le cmana ≈ *the mountain, the mountains*
se zdani ≈ *... lives in ... (place)*
le nurma ≈ *the rural area, the countryside*
sledi'u ≈ *... is a room*
vimstu ≈ *... is a toilet*
lumstu ≈ *... is a bathroom*

> **je'e**
> **.i ku'i mi pu jbena le tcadu .i je ca ti mi se zdani le jarbu be la .paris.**
> **.i mi xabju ne'a le zarci**
> *I see.*
> *But I was born in the city, and now I live in the suburbs of Paris.*
> *I live near a shop.*

je'e ≈ *interjection: I see, understood*
jbena ≈ *... is born*
le tcadu ≈ *the city*
jarbu ≈ *... is a suburban area of ... (city)*
xabju ≈ *... inhabits ... (place)*
ne'a ≈ *modal term: near ...*

Lesson 5. Modal terms, «**da**», their relative position

How do modal terms refer to the relation?

Some modal terms, like those that describe time (tense), connect the current relation with the one in the argument after them:

> **mi cadzu ca le nu le cipni cu vofli**
> *I walk when the birds fly.*

cadzu ≈ *… walks*
le cipni ≈ *the bird/birds*
vofli ≈ *… flies to …*

> **mi pu cadzu fa'a le rirxe**
> *I walked towards the river.*

> **mi pu cadzu se ka'a le rirxe**
> *I walked to the river.*

se ka'a ≈ *coming to …*
fa'a ≈ *directly towards …*

Modal terms don't remove ordered places (**fa**, **fe**, **fi**, **fo**, **fu**) from the relation:

> **mi klama se ka'a le rirxe le dinju**
> **mi klama fe le rirxe .e le dinju**
> *I go to a river, to a house.*

In the first example, **se ka'a** connects **le rirxe** and then the second place of **klama** follows, being filled with **le dinju**. It's the same as just filling the second place of **klama** two times, connecting them with **.e** — *and*.

However, **se ka'a** is useful when applied to other relations like **cadzu** in a previous example.

> **le prenu pu cadzu tai le nu ri bevri su'o da poi tilju**
> *The person walked as if he was carrying something heavy.*

bevri ≈ *x_1 carries x_2*
tai ≈ *modal term: like …, resembling …*

Task

Close the right part of the table. Translate the sentences on the left from Lojban.

cadzu	≈ *to walk*
le rirxe	≈ *the river*
bevri	≈ *to carry*
tilju	≈ *to be heavy*

mi cadzu ca le nu do tavla	*I walk when you talk.*
mi cadzu se ka'a le rirxe	*I walk to the river.*
mi bevri da poi tilju	*I carry something heavy.*

Close the right part of the table. Translate the sentences on the left to Lojban.

I walk towards the river.	**mi cadzu fa'a le rirxe**
I walk like a bird.	**mi cadzu tai le cipni**

Using «**ne**» + term. «**se mau**» — ‘*more than …*’

> **mi ne se mau do cu melbi**
> *I am prettier than you.*

se mau ≈ *term from **se zmadu**: more than; the relation itself describes the comparison*

This example is similar to

> **mi zmadu do le ka melbi**
> *I exceed you in prettiness.*

In other words, the main relation **melbi** is similar to the third place of **zmadu**, which specifies the comparison criteria. Two more examples:

> **mi prami do ne se mau la .doris.**
> *I love you more than Doris.*

> **mi ne se mau la .doris. cu prami do**
>
> *I love you more than Doris does.*
>
> *I love you more than Doris loves you.*
>
> `I (more than Doris) love you.`

More examples:

> **mi nelci le'e pesxu ne se mau le'e jisra**
>
> *I like jam more than juice.*

pesxu ≈ *… is jam*

> **le'e pesxu cu zmadu le'e jisra le ka mi nelci**
>
> *I like jam more than juice.*
>
> `Jam exceeds juice in how much I like it.`

And now an interesting sentence:

> *Bob likes Betty more than Mary.*

It can mean two different things in English!

1. Bob likes Betty and he likes Mary less.
2. Bob likes Betty but Mary likes Betty too, though not as much as Bob does!

Do we compare Betty with Mary in how Bob likes them?

Or instead we compare Bob with Mary in how they like Betty?

English is ambiguous in this regard.

In Lojban, we can differentiate the two meanings by attaching **se mau** to suitable arguments:

> **la .bob. ne se mau la .maris. cu nelci la .betis.**
>
> *Bob (compared to Mary) likes Betty more. Mary likes Betty less.*
>
> *Bob likes Betty more than Mary.*

> **la .bob. cu nelci la .betis. ne se mau la .maris.**
>
> *Bob likes Betty, and he like Mary less.*
>
> *Bob likes Betty more than Mary.*

Task

Close the right part of the table. Translate the sentences on the left from Lojban.

nelci ≈ *to like*
le pesxu ≈ *the jam*
le jisra ≈ *the juice*

mi ne se mau do cu melbi	*I am prettier than you.*
mi nelci le pesxu ne se mau le jisra	*I like jam more than juice.*
do prami mi ne se mau la .bob.	*You love me more than Bob (loves me).*

Close the right part of the table. Translate the sentences on the left to Lojban.

I run faster than you.	**mi ne se mau do cu sutra bajra**
I like you more than Mary.	**mi nelci do ne se mau la .maris.**

Comparisons: ‘*equal*’, ‘*the same*’

> **mi dunli le mensi be mi le ka mitre .i ku'i mi na ku du le mensi**
> *I am as big as my sister. But I'm not her.*
> I equal the sister of me in meters. But I am not identical to the sister._

dunli ≈ *x_1 (any type) is equal to x_2 (any type) in x_3 (property of x_1 and x_2 with* ***kau****)*
mitre ≈ *x_1 is x_2 meters long*
du ≈ *x_1 (any type) is identical to x_2 (any type)*

dunli compares two places for a single property, while **du** compares for identity. My sister and I are the same height, but we are not the same person. Clark Kent and Superman have different admirers, but they are the same person.

The same goes for these two verbs:

> **mi frica do le ka nelci ma kau**
> *We differ from each other in what we like.*
> *I differ from you in liking what.*

> **le drata be mi cu kakne le ka sidju**
> *Someone other than me is able to help.*

frica ≈ *x_1 (any type) differs from x_2 (any type) in x_3 (property of x_1 and x_2 with **kau**)*
drata ≈ *x_1 (any type) is not the same as x_2 (any type)*

Task

Close the right part of the table. Translate the sentences on the left from Lojban.

mitre ≈ *to be … meters long*
kakne ≈ *to be able to*
sidju ≈ *to help*
le laldo ≈ *the old one*

mi dunli do le ka mitre	*I am as tall as you.*
mi na ku du do	*I am not identical to you.*
mi frica do le ka nelci ma kau	*We differ from each other in what we like.*

Close the right part of the table. Translate the sentences on the left to Lojban.

I am different from you.	**mi na ku du do** or **mi drata do**
Someone other than me can help.	**le drata be mi cu kakne le ka sidju**

The concept of ‘*only*’

> **mi .e no le pendo be mi cu nelci le'e badna**
> *I and none of my friends like bananas.*
> *Among my friends I'm the only one who likes bananas.*

The concept of *not only* is similarly expressed:

> **mi .e le su'o pendo be mi cu nelci le'e badna**
> *It's not just me who likes bananas among my friends.*
> *I and some of my friends like bananas.*

Task

Close the right part of the table. Translate the sentences on the left from Lojban.

nelci ≈	*to like*
le badna ≈	*the banana*
le pendo ≈	*the friend*

mi .e no le pendo be mi cu nelci le badna	*I and none of my friends like bananas.*
mi .e le su'o pendo be mi cu nelci le badna	*I and some of my friends like bananas.*

Close the right part of the table. Translate the sentences on the left to Lojban.

Only I can help.	**mi .e no le drata cu kakne le ka sidju**
Not just you like bananas.	**do .e le su'o drata cu nelci le badna**

'*Most*', '*many*' and '*too much*'

Words like *most* and *many* are also numbers in Lojban:

ro	*each*
so'a	*almost all*
so'e	*most*
so'i	*many, a lot of*
so'o	*several*
so'u	*few*
no	*zero, none*
su'e	*at most*
su'o	*at least*
za'u	*more than ...*
du'e	*too many*

Some examples:

> **su'e re no le prenu ba klama**
> *No more than 20 of the people will come.*

> **su'o pa le prenu cu prami do**
> *At least one person loves you.*

Task

Close the right part of the table. Translate the sentences on the left from Lojban.

klama ≈ *to come*
prami ≈ *to love*

su'e re no le prenu ba klama	*No more than 20 people will come.*
so'i le prenu cu prami do	*Many people love you.*
so'u le prenu cu nelci le badna	*Few people like bananas.*

Close the right part of the table. Translate the sentences on the left to Lojban.

Most people will come.	**so'e le prenu ba klama**
Almost all people like you.	**so'a le prenu cu nelci do**

‘*never*’ — «**no roi**», ‘*always*’ — «**ro roi**»

Terms specifying the number of times:

- **no roi** = *never*
- **pa roi** = *once*
- **re roi** = *twice*
- **ci roi** = *thrice*

…

- **so'i roi** = *many times*
- **so'u roi** = *a few times*
- **du'e roi** = *too many times*
- **ro roi** = *always*

> **mi du'e roi klama le zarci**
> *I go to the market too often.*

zarci ≈ x_1 *is a market*

> **mi pu re roi klama le zarci**
> *I went to the market twice.*

Without **pu**, the construct **re roi** may mean that I went to the market once but the second time I will be there will only happen in the future. These time-related particles can be used with an argument after them:

> **mi klama ti pa roi le jeftu**
> *I come here once a week.*

Task

Close the right part of the table. Translate the sentences on the left from Lojban.

le zarci ≈ *the market*
le jeftu ≈ *the week*

mi du'e roi klama le zarci	*I go to the market too often.*
mi klama ti pa roi le jeftu	*I come here once a week.*
mi no roi klama le zarci	*I never go to the market.*

Close the right part of the table. Translate the sentences on the left to Lojban.

I always come here.	**mi ro roi klama ti**
I go to the market three times a week.	**mi klama le zarci ci roi le jeftu**

'*for the first time*' — «**pa re'u**», '*for the last time*' — «**ro re'u**»

🌼 **pa re'u** = *for the first time*
🌼 **re re'u** = *for the second time*

…

🌼 **za'u re'u** = *again*
🌼 **ro re'u** = *for the last time*

The time-related particle **re'u** works like **roi**, but tells the number of iterations for which the event occurs.

Compare:

mi pa roi klama le muzga
I visited the museum once.

mi pa re'u klama le muzga
I visited the museum for the first time.

mi za'u roi klama le muzga
I visited the museum more times.

mi za'u re'u klama le muzga
I visited the museum again.

mi za'u pa roi klama le muzga
I visited the museum more than once.

mi za'u pa re'u klama le muzga
I visited the museum not for the first time (maybe for the second/third etc.))

vitke ≈ *to visit (somebody or something)*

Note the difference between:

za'u re'u ≈ *again, not for the first time*
re re'u ≈ *for the second time (same here, no context is needed, and even the exact number of times is given)*

Task

Close the right part of the table. Translate the sentences on the left from Lojban.

le muzga ≈ *the museum*
vitke ≈ *to visit*

mi pa re'u vitke le muzga	*I visit the museum for the first time.*
mi za'u re'u vitke le muzga	*I visit the museum again.*
mi ro re'u vitke do	*I visit you for the last time.*

Close the right part of the table. Translate the sentences on the left to Lojban.

I come here for the second time.	**mi re re'u klama ti**
I visit the market not for the first time.	**mi za'u pa re'u klama le zarci**

Modal particles: their location within a relation

> **le nu tcidu kei ca cu nandu**
> *Reading is now difficult.*

> **ca ku le nu tcidu cu nandu**
> *Now reading is difficult.*

Bare terms without arguments after them can be moved around the sentence by adding **ku** after them.

ku prevents the following argument terms from attaching to such terms. Compare:

> **ca le nu tcidu cu nandu**
> *When reading, it's difficult.*

Here are several places where modal particles can go.

🌼 Modal term modifies the relation to the right of it:

> **ca ku mi citka**
> *Now I eat.*

— here the term is labeled with a word **ku** as being completed.

> **ca le cabdei mi citka**
> *Today I eat.*

— here the term has an argument after it.

> **mi ca citka**
> *I now eat.*

— here the modal particle is a part of the main relation construct and without an argument.

🌼 Modal term is applied to the whole relation:

> **mi citka ca**
> *I eat now.*

— here the modal term at the end of the relation.

Task

Close the right part of the table. Translate the sentences on the left from Lojban.

citka ≈ *to eat*
le cabdei ≈ *today*

ca ku mi citka	*Now I eat.*
mi ca citka	*I now eat.*
ca le cabdei mi citka	*Today I eat.*

Close the right part of the table. Translate the sentences on the left to Lojban.

I eat now.	**mi citka ca**
Now the person eats.	**ca ku le prenu cu citka**

Joining statements with modals

> **mi pinxe le jisra ca le nu do co'i klama le zdani**
> *I am drinking the juice when you come home.*

> **mi pinxe le jisra .i ca bo do co'i klama le zdani**
> *I am drinking the juice, and at the same time you come home.*

The two examples convey the same meaning. The second option is mostly used when any of the original relations sound bulky.

Another use is to move modal terms out of scope of other modal terms:

> **mi na ku te vecnu ki'u le nu kargu**
> *It's not true that I buy because it's expensive.*

In this example, one might suppose that I only buy things if they are expensive. However, that's not the case.

Here, **na ku** negates that *I buy things because they are expensive.* **na ku** is applied to the whole relation, thus it "covers" **ki'u**.

> **mi na ku te vecnu .i ki'u bo kargu**
> *I don't buy. It's because it's expensive.*

In this case, I don't buy things. Why? Because they are expensive. Maybe I prefer only cheap things.

Here, **ki'u** is placed in another sentence. Thus, **na ku** doesn't scope over it.

Both examples could be translated as *I don't buy because it's expensive.* However, they mean different things.

A special rule is for using **.i ba bo** and **.i pu bo**. Compare:

> **mi cadzu pu le nu mi citka**
> *I walk before I eat.*

> **mi cadzu .i ba bo mi citka**
> *I walk, and then I eat.*

.i ba bo means *afterwards, then.* The sentence after **.i ba bo** refers to something that took place later than what took place in the relation before.

pu is changed into **ba**, and vice versa. This special rule for Lojban was made by analogy of natural languages. So you just have to remember this special behavior of these two words.

Task

Close the right part of the table. Translate the sentences on the left from Lojban.

pinxe ≈ *to drink*
kargu ≈ *to be expensive*
te vecnu ≈ *to buy*

mi pinxe le jisra ca le nu do klama	*I drink juice when you come.*
mi na ku te vecnu ki'u le nu kargu	*It's not true that I buy because it's expensive.*
mi cadzu .i ba bo mi citka	*I walk, and then I eat.*

Close the right part of the table. Translate the sentences on the left to Lojban.

I don't buy. It's because it's expensive.	**mi na ku te vecnu .i ki'u bo kargu**
I walk before I eat.	**mi cadzu pu le nu mi citka**

Existing things, ‘*there are …*’

There are actually three words in the **da** series: **da**, **de**, and **di**. We use them when referring to different objects in one discourse:

> **ci le mlatu cu citka re le finpe**
> *There are three cats, there are two fishes for each cat, and each cat eats two fishes.*

If you need more such words in one discourse add a suffix **xi** to them and then any number (which we can call an index). Thus,

- **da xi pa** is the same as simple **da**,
- **da xi re** is the same as **de**,
- **da xi ci** is the same as **di**
- **da xi vo** is the fourth "something" and so on …

Task

Close the right part of the table. Translate the sentences on the left from Lojban.

mlatu ≈ *to be a cat*
finpe ≈ *to be a fish*
citka ≈ *to eat*

ci le mlatu cu citka re le finpe	*Three cats eat two fish each.*
da xi pa citka da xi re	*The first thing eats the second thing.*

Close the right part of the table. Translate the sentences on the left to Lojban.

Three things eat four things each.	**ci da citka vo de**
The third thing sees the first thing.	**da xi ci viska da xi pa**

Topic and comment. «**zo'u**»

Sometimes it is useful to show the topic of a relation and then say a comment about it:

> **le'e finpe zo'u mi nelci le'e salmone**
> *As for fish I like salmon.*

salmone ≈ *... is a salmon*
zo'u ≈ *ends the topic and starts the comment of the relation*

zo'u is more useful when a pronoun like **da** is defined in the topic and then used in the comment:

> **su'o da zo'u mi viska da**
> *There is a thing such that I see it.*

> **ro da poi gerku zo'u mi nelci da**
> *For each thing that is a dog: I like it.*
> *I like all dogs.*

> **da de zo'u da viska de**
> *There is **da** and **de** such that **da** sees **de**.*

The two pronouns **da** and **de** indicate that there are two things which stand in the relationship that one sees the other. It might be the case that the supposed two things are really just a single thing that loves itself: nothing in the sentence rules out that interpretation, which is why the colloquial translation does not say *Somebody sees somebody else.* The things referred to by different pronouns of **da** series may be different or the same.

It is perfectly okay for these pronouns to appear more than once in the same sentence:

> **da zo'u da prami da**
> *There is* ***da*** *such that* ***da*** *loves* ***da****. There is someone who loves himself/herself.*

It is not necessary for a pronoun to be the direct argument of the relation:

> **da zo'u le gerku pe da cu viska mi**
> *There is* ***da*** *such that the dog of them sees me. Somebody's dog sees me.*

Task

Close the right part of the table. Translate the sentences on the left from Lojban.

salmone ≈ *to be a salmon*
viska ≈ *to see*
gerku ≈ *to be a dog*

le'e finpe zo'u mi nelci le'e salmone	*As for fish, I like salmon.*
da de zo'u da viska de	*There is something that sees something.*
ro da poi gerku zo'u mi nelci da	*For each thing that is a dog: I like it.*

Close the right part of the table. Translate the sentences on the left to Lojban.

There is something that loves itself.	**da zo'u da prami da**
As for cats, I like them all.	**le'e mlatu zo'u mi nelci ro da poi mlatu**

‘*any*’ and ‘*some*’ in examples

The words *any* and *some*, along with their derivatives, have many meanings in English. We should be careful when translating the intended meaning:

Translating as **da**:

🌼 *some*: something unspecified:

> **da pu klama .i je ko smadi le du'u da me ma kau**
> *Somebody came. Guess who it was.*

smadi ≈ *... guesses ... (proposition)*

> **mi pu tirna da .i je mi fliba le ka jimpe le du'u da mo kau**
> *I heard something, but I fail to understand what it was.*

fliba ≈ *... fails at ... (property)*

🌼 *some* in questions turns into *anything*, *anybody*; in Lojban, it's still **da**:

> **xu su'o da pu klama**
> *Did anybody come?*

🌼 *some* when using commands, requests, or suggestions:

> **.e'u mi'o pilno su'o da poi drata**
> *Let's try something else. Let's try other things.*

> **.e'u mi'o troci bu'u su'o da poi drata**
> *Let's try somewhere else.*

🌼 *any* can be used in inner relations:

> **mi rivbi le ka jdice da**
> *I avoided taking any decision.*

rivbi ≈ *... avoids ... (property)*
jdice ≈ *... decides ... (proposition)*

Like in relations inside modal terms:

> **ba le nu do zgana da kei ko klama**
> *After you notice anything, come!*

🌼 Scope: *any* is used in English when negating, while Lojban uses **na ku** but then still **da**:

> **mi na ku viska su'o da poi prenu**
> *I don't see anybody.*

🌼 *any* is used when making no distinction among members we talk about:

> **.au nai mi tavla su'o da poi na ku slabu mi**
> *I don't want to talk to just anybody.*

slabu ≈ *… is familiar with … (something)*

🌼 Scope: Negation should be used in an appropriate relation, as shown below:

> **mi jinvi le du'u na ku da jimpe**
> *I don't think that anybody understands.*

This can be rephrased as:

> **mi jinvi le du'u no da jimpe**
> *I think that nobody understands.*

🌼 In comparisons, *every* is turned into *any* and translated as **ro da**:

> **do zmadu ro da le ka se canlu**
> *You are taller than anybody.*
> `You exceed everybody in size.`

zmadu ≈ *… exceeds … (something) in … (property)*
se canlu ≈ *… takes space …*

🌼 When providing choice, *any* is used and translated as **ro da**:

> **ro da poi do nelci zo'u .e'a do citka da**
> *You may eat anything you like.*
> `For everything that you like, I allow you to eat it.`

🌼 For terms like *anyone* and *somewhere*:

> **.e'u mi'o troci bu'u su'o da poi drata**
> *Let's try somewhere else.*

Here, **su'o da poi drata** means *any other thing or things, place or places*. The number of such places is not specified, although any such place might fit.

To say *any place but only one place*, use:

> **.e'u mi'o troci bu'u pa da poi drata**
> *Let's try at another place.*

🌼 Translating *any* as **le'e** in generic statements:

> **le'e gerku cu se tuple le vo da**
> *Any dog has four legs. Dogs are expected to have four legs.*

se tuple ≈ *... has leg/legs ...*

🌼 Using **le** when describing specific objects, places, or events:

> **le drata zo'u .e'u mi'o pilno ri**
> *The other thing, let's use it.*

> **le drata stuzi zo'u .e'u mi'o troci bu'u ri**
> *The other place, let's try there.*

Task

Close the right part of the table. Translate the sentences on the left from Lojban.

jimpe ≈ *to understand*
klama ≈ *to come*
troci ≈ *to try*

xu su'o da pu klama	*Did anybody come?*
mi na ku viska su'o da poi prenu	*I don't see anybody.*
ro da poi do nelci zo'u .e'a do citka da	*You may eat anything you like.*

Close the right part of the table. Translate the sentences on the left to Lojban.

Let's try something else.	**.e'u mi'o pilno su'o da poi drata**
I don't think that anybody understands.	**mi jinvi le du'u na ku da jimpe**

Resume: which constructs does scope affect?

Scope is created only by:

- borders of relations,
- modal terms and modal particles of the main relation construct,
- argument terms starting with numbers (like **pa le prenu** — *one of the persons*).

da, **de**, **di** if used without a prenex and without an explicit number in front are meant to mean **su'o da**, **su'o de**, **su'o di** and thus also create scope.

Thus, the relative order of such constructs changes the meaning:

> **pa le prenu ca ku zvati**
> *There is one person who is now present.*

> **ca ku pa le prenu ca zvati**
> *Now there is one person.*

Scope isn't relevant for relation constructs and for arguments starting with **le** (like **le prenu** or **le re prenu**). Both these sentences mean the same:

> **le prenu ca ku zvati le zdani**
> **ca ku le prenu cu zvati le zdani**
> **ca ku fe le zdani fa le prenu cu zvati**
> *People are now present.*

Modal term scopes from where it's used to the right of the relation until the relation and all its inner relations (if present) end.

Here, **ki'u le nu kargu** is under the scope of **na ku**:

> **na ku mi te vecnu ki'u le nu kargu**
> *It's not true that: I buy because it's expensive.*

But here, **ki'u le ne kargu** is not under the scope of **na ku**. **ki'u** is applied to the whole previous sentence, including **na ku**:

> **mi na ku te vecnu .i ki'u bo kargu**
> *I don't buy. It's because it's expensive.*

Task

Close the right part of the table. Translate the sentences on the left from Lojban.

zvati ≈ *to be present at*
zdani ≈ *to be a home*
te vecnu ≈ *to buy*

pa le prenu ca ku zvati	*There is one person who is now present.*
ca ku pa le prenu cu zvati	*Now there is one person present.*
mi na ku te vecnu ki'u le nu kargu	*It's not true that I buy because it's expensive.*

Close the right part of the table. Translate the sentences on the left to Lojban.

Now people are present at home.	**ca ku le prenu cu zvati le zdani**
I don't buy. It's because it's expensive.	**mi na ku te vecnu .i ki'u bo kargu**

Lesson 6: modal terms: time and space

> **mi citka le cirla**

Possible translations:

> *I eat cheese.*
> *I ate cheese.*
> *I always eat cheese.*
> *In a moment, I will have just finished eating cheese.*

Tenses in Lojban are optional; we don't have to think all the time about which tense to use.

Context often resolves what is correct. We add tenses when we feel we need them.

Lojban tenses treat time and space the same. Saying that *I worked a long time ago* is not grammatically different from saying *I work far away to the north*. English treats words like *earlier*, past tense ending *-ed*, and space words like *in* or *near* in three different schemes, while in Lojban they follow the same principle.

Points in time and place

A tense modal particle without an argument following it describes the event as relative to *here* and *now*:

> **mi pinxe ba**
> **mi ba pinxe**
> *I will drink.*

> **mi pinxe bu'u**
> **mi bu'u pinxe**
> *I drink at this place.*

A tense modal term with an argument following it describes the event as relative to the event in that argument:

> **mi pinxe ba le nu mi cadzu**
> *I drink after I walk.*

Task

Close the right part of the table. Translate from Lojban:

mi bu'u pinxe	*I drink here.*
mi ba citka le plise	*I will eat the apple.*
mi pinxe ba le nu mi cadzu	*I drink after I walk.*

Translate to Lojban:

I will walk.	**mi ba cadzu**
I drink before I sleep.	**mi pinxe pu le nu mi sipna**

Events relative to other events in time

In English, we use the so-called "sequence of tenses":

> **la .alis. pu cusku le se du'u ri pu penmi la .doris.**
> *Alice told that she had seen Doris before.*

penmi ≈ *… meets … (someone)*

Here, the event *had seen Doris* happens before the event *Alice said*. However, in

> **la .alis. pu cusku le se du'u ri ca kansa la .doris.**
> *Alice told that she was with Doris.*

kansa ≈ *… is with … (someone)*

the two events (*told* and *was with Doris*) happen at the same time.

Thus, in English:

- the tense of the main relation is understood relative to whoever utters this relation.
- the tense of the relation inside the main relation is also understood relative to whoever utters this relation.

In Lojban:

- only the tense of the main relation is relative to whoever utters the relation.

🌼 the other tenses are relative to each other. This is why, in **la .alis. pu cusku le se du'u ri pu penmi la .doris.** the second **pu** is relative to the first **pu**. In **la .alis. pu cusku le se du'u ri ca kansa la .doris.**, we use **ca** (*at the same time*) which is relative to the outer relation (**pu cusku** — *said*).

However, we can use the modal term **nau** (*at the time or place of the speaker*), which will give the same effect as how English works:

Here is an example in English style:

> **la .alis. pu cusku le se du'u ri nau pu kansa la .doris.**
> *Alis said that she was with Doris.*

Task

Close the right part of the table. Translate from Lojban:

la .alis. pu cusku le se du'u ri ba penmi la .doris.	*Alice said that she would meet Doris.*
mi pu djuno le du'u do ca gunka	*I knew that you were working.*
mi pu na djuno le du'u do ba zvati ti	*I didn't know that you would be here.*

Close the right part of the table. Translate to Lojban:

She told me that she had been at home.	**ri pu cusku le se du'u ri pu zvati le zdani**
I know you are smart.	**mi djuno le du'u do ca stati**

Distance in time and space

fau ≈ *modal term: at the same time, place or situation as ...*
ca ≈ *modal term: at ... (some time), at the same time as ...; "present tense"*
bu'u ≈ *modal term: at ... (some place); here (at this place)*
zi ≈ *just (short time ago) or soon (in a short time)*
vi ≈ *near ...*
za ≈ *a while ago or in a while, in an unspecified time*
va ≈ *not far from ...*
zu ≈ *long time ago or in a long time*
vu ≈ *far away from ...; far away*

This is how we can use tense combinations to specify how far we go into the past or future:

- **pu zu** means *a long time ago*
- **pu za** means *a while ago*
- **pu zi** means *just*
- **ba zi** means *soon*
- **ba za** means *in a while*
- **ba zu** means *in a long time*

Notice the vowel order **i**, **a**, and **u**. This order appears repeatedly in Lojban and might be worth memorizing. *Short* and *long* are always context-dependent, relative, and subjective. For example, two hundred years is a short time for a species to evolve but a long time to wait for the bus.

zi, **za**, and **zu** modify the tense particle like **pu** and **ba** that is said before it:

- **pu zu** is *a long time ago*. **pu** shows that we begin in the past, and **zu** indicates that it is a long time backwards.
- **zu pu** is *far away in time; there is a point after some event*. **zu** shows that we begin at some point far away in time from now, and **pu** indicates that we move backward from that point.

Thus, **pu zu** is always in the past, whereas **zu pu** could be in the future.

Spatial distance is marked similarly by **vi**, **va**, and **vu** for short, unspecified (medium), and long distance in space.

To specify distance in time or space, we use the modal term **la'u** with an argument specifying the distance:

> **ba ku la'u le djedi be li ci mi zvati ti**
> *In three days, I will be here.*

le djedi ≈ *the day, the days*

The space equivalent of **ca** is **bu'u**, and **fau** is more vague than the two of them, as it can mean time, space, or situation.

> **ba za vu ku mi gunka**
> *Some time in the future, I will work a place far away.*

gunka ≈ *to work*

> **mi bu'u pu zu gunka**
> *I used to work here a long time ago.*
> `I here-past-long-time-distance work`

> **pu zu vu ku zasti fa le ninmu .e le nanmu**
> *Long ago and far away, a woman and a man lived.*

zasti ≈ *... exists*

The last sentence is how fairy tales often begin.

Task

cliva ≈ *... leaves*

Close the right part of the table. Translate from Lojban:

mi pu zu gunka	*I worked long ago.*
do ba zi cliva	*You'll leave soon.*
mi vu zvati	*I am far away.*

Translate to Lojban:

I will work in a while.	**mi ba za gunka**
You are nearby.	**do vi zvati**

Duration in time and space

ze'i ≈ *modal term: for a short time*
ve'i ≈ *modal term: over a small space*
ze'a ≈ *modal term: for some time*
ve'a ≈ *modal term: over some space*
ze'u ≈ *modal term: for a long time*
ve'u ≈ *modal term: over the long space*

Again, it's easy to remember given the pattern **i**, **a**, **u**.

> **mi ze'u bajra**
> *I run for a long time.*

> **do ze'u klama le mi'a gugde ze'u**
> *You spend a long time coming to our country.*

gugde ≈ *... is a country*
mi'a ≈ *we without you*

> **mi ba zi ze'a xabju la .djakartas.**
> *Pretty soon, I'm going to live in Jakarta for a while.*

xabju ≈ *... lives in ... (place)*

> **le jenmi pe la .romas. ba ze'u gunta la .kart.xadact.**
> *The army of Romans will be attacking Carthage for a long time.*

le jenmi ≈ *the army*
gunta ≈ *... attacks ... (someone or something)*

This does not mean that Romans are not attacking Carthage these days. In Lojban, if we say that something is true at a particular time, it doesn't mean that it is not true at any other time. You can say **pu ba ze'u** so that we know that this activity was in the future when viewed from some point in the past but in the past when viewed from today.

> **le xamsi**
> *sea/ocean*

le xamsi ≈ *the sea, the ocean*

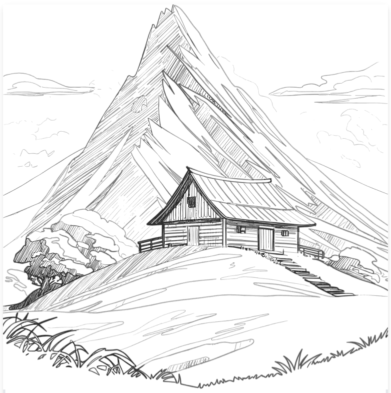
> **le ve'u xamsi**
> *ocean*

> **le cmana**
> *mountain/hill*

le cmana ≈ *the mountain, the hill*
jibni ≈ *... is near ... (something)*

> **le ve'u cmana**
> *mountain*

> **le ve'i cmana**
> *hill*



le ve'i cmana cu jibni le ve'u cmana
The hill is near the mountain.

> **ti ve'u gerku**
> *That's a big dog. This is a dog covering a large space.*

Task

le kumfa ≈ *the room, the rooms*

Close the right part of the table. Translate from Lojban:

mi ze'u pinxe le tcati	*I drink tea for a long time.*
mi ve'i zvati le kumfa	*I am in a small room.*

Translate to Lojban:

I'll stay here for a while.	**mi ze'a zvati ti**
The dog covers a large space.	**le gerku cu ve'u zvati**

«**pu'o**» — ‘*to be about*’, «**ba'o**» — ‘*no longer*’, «**za'o**» — ‘*still*’, «**xa'o**» — ‘*already*’

Here are several sets of modal terms that can help us add finer meanings when necessary.

With *event contours*, unlike **pu**, **ca**, and **ba**, we view each event as having a shape with certain stages:

pu'o ≈ *modal term: to be about to do something (the event has not yet happened)*
ba'o ≈ *modal term: to be no longer doing something, to have done something (the event has ended)*

Examples:

> **mi ba tavla le mikce**
> *I will speak to the doctor (and I might be speaking now too).*

mikce ≈ *x_1 is a doctor*

> **mi pu pu'o tavla le mikce**
> *I was about to speak to the doctor (I was not speaking at that time, the event hadn't started by that time).*

le sanmi ca pu'o bredi
The meal is not ready yet.

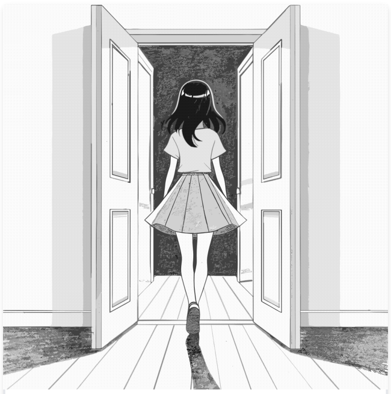
le sanmi ≈ *the meal*
bredi ≈ *... is ready*

mi pu ba'o tavla le mikce
I had spoken to the doctor.

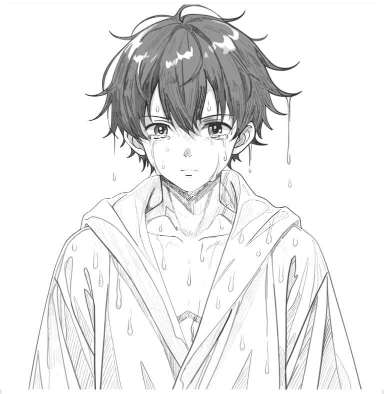
mi ba ba'o tavla le mikce
I will have spoken to the doctor.

.a'o mi ba zi ba'o gunka
I hope soon I will have done the work.

za'o ≈ *modal term: still. The event is in process beyond its natural end*
xa'o ≈ *unofficial modal term: already, too early. The event already started and it is too early*



le prenu pu'o zvati le nenri
The person is about to be inside.



ba'o carvi
Aftermath of the rain. The rain has stopped.

Examples:

ri'a ma do za'o zvati vi
Why are you still here?

la .kevin. xa'o zvati vi
Kevin is already here.

Task

jukpa ≈ *... cooks ... (food)*
kelci ≈ *... plays*
le cidja ≈ *the food*

Close the right part of the table. Translate from Lojban:

mi pu pu'o ciska	*I was about to write.*
le sanmi ba'o jukpa	*The meal is no longer being cooked.*
mi za'o kelci	*I'm still playing (longer than expected).*

Translate to Lojban:

I already left.	**mi xa'o cliva**
The food will be ready.	**le cidja ba bredi**

Stages of event

mi co'a tavla
I started talking.

ra ca'o ciska
She keeps writing.

ra pu co'u vasxu
He stopped breathing (sudden unpredictable change).

vasxu ≈ x_1 *breathes* x_2

mi pu mo'u citka le plise
I've eaten the apple up.

la .maks. pu mo'u zbasu ti voi dinju
Max has built this house.

ra pu de'a vasxu
She ceased to breath (but may breath again later).

mi pu di'a citka le plise

I resumed eating apples.

co'a ≈ *modal term: the event starts (the border of the event)*

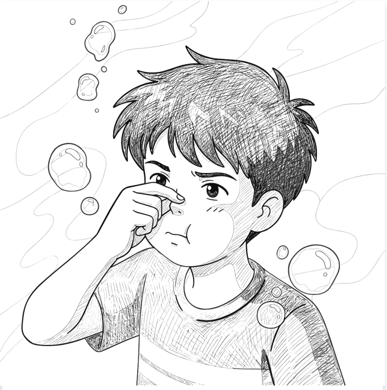
ca'o ≈ *modal term: to be doing something (the event is in progress)*

co'u ≈ *modal term: the event stops*

mo'u ≈ *modal term: the event ends (the border of the event)*

de'a ≈ *the event pauses (the event can be expected to continue)*

di'a ≈ *the event resumes*



mi de'a vasxu

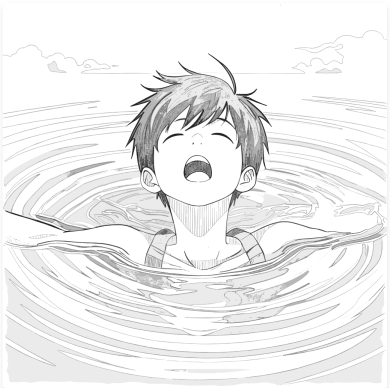
I pause in breathing. I hold my breath.

mi de'a ze'i jundi

BRB (I'll be right back).

mi di'a jundi

I am back (being attentive).



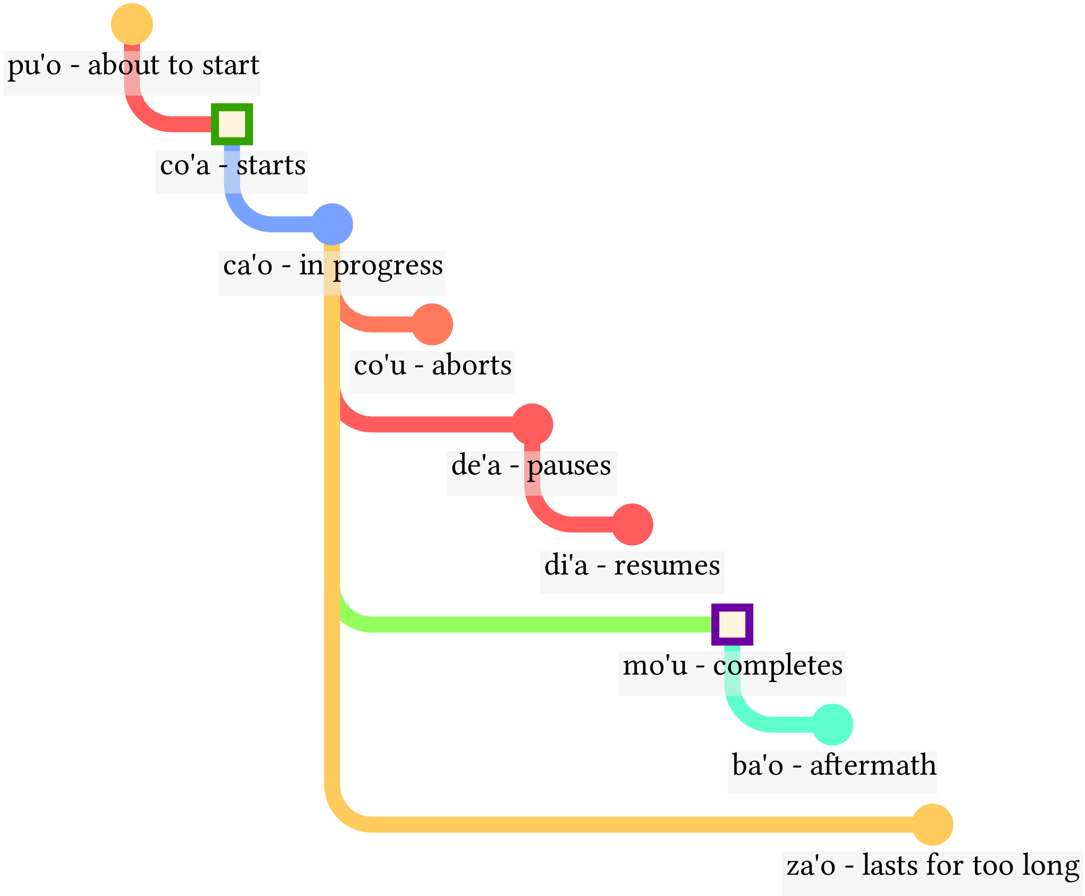
mi di'a vasxu

I resume breathing.

jundi ≈ *x_1 pays attention to x_2*

These two expressions are common in text chats for indicating that you are away or not paying attention, and then coming back online:

One could, of course, also say just **de'a** or **di'a** and hope the point gets across.


pu'o - about to start
co'a - starts
ca'o - in progress
co'u - aborts
de'a - pauses
di'a - resumes
mo'u - completes
ba'o - aftermath
za'o - lasts for too long

Task

vasxu ≈ *… breathes*

Close the right part of the table. Translate from Lojban:

mi co'a tavla	*I started talking.*
mi ca'o pinxe le tcati	*I am drinking the tea.*
mi co'u tavla	*I stopped talking.*
mi de'a vasxu	*I pause breathing.*

Translate to Lojban:

I resume working.	**mi di'a gunka**
I finished eating.	**mi mo'u citka**

Continuous and progressive events

ru'i ≈ *modal term: the event is continuous*

> **.i mi pu ru'i citka le plise**
> *I was continuously eating apples.*

Note the difference:

- **ru'i** indicates that the event is continuous and never pauses.
- **ca'o** implies that the event progresses. It may sometimes pause and then resume its progress.

Task

Close the right part of the table. Translate from Lojban:

mi pu ru'i citka le plise	*I was continuously eating apples.*
le mlatu cu ru'i sipna	*The cat sleeps continuously.*
xu do ca'o kelci	*Are you playing (still in progress)?*

kelci ≈ *to play*

Close the right part of the table. Translate to Lojban:

I continuously work here.	**mi ru'i gunka bu'u**
They are still dancing.	**ri ca'o dansu**

Place contours

Event contours can be used to refer to space if we prefix them with **fe'e**:

> **le rokci cu fe'e ro roi zvati**
> *The stones are everywhere.*

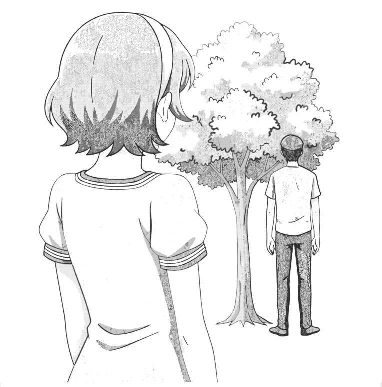
'to the left', 'to the right'

> **le prenu cu sanli le dertu bu'u le pritu be mi**
> *The person stands on the ground to the right of me.*

sanli ≈ *... stands on ... (surface)*
le dertu ≈ *the ground, the dirt*

> **le gerku cu vreta le ckana bu'u le zunle be le verba**
> *The dog is lying on the bed to the left of a child.*

vreta ≈ *... lies on ... (surface)*
le ckana ≈ *the bed*



le prenu cu pritu le tricu le zgana
The person is to the right of the tree from the observer's point of view.

ko jgari le panbi poi zunle
Take the pen on the left.

jgari ≈ *... grasps ... (something)*
le panbi ≈ *the pen*

le mlatu cu plipe bu'u le crane be do
A cat jumps in front of you.

plipe ≈ *... jumps*
crane ≈ *... is in front of ... (something)*

ko catlu le dinju poi crane
Look at the house in the front.

le verba cu zutse le stizu bu'u le trixe be mi
The child sits on the chair behind me.

zutse ≈ *... sits on ... (surface)*
le stizu ≈ *the chair*
trixe ≈ *... is behind ... (something)*

le prenu cu sanli ki mi bu'u le pritu be le tricu bei mi
The person stands to the right of a tree from my viewpoint.

le dinju cu zunle le rokci ti
The house is to the left of the rock if viewed from here.

zunle ≈ x_1 *is to the left of* x_2 *as viewed from* x_3
pritu ≈ x_1 *is to the right of* x_2 *as viewed from* x_3
crane ≈ x_1 *is in front of* x_2 *(*x_1 *is between* x_2 *and whoever watches) as viewed from* x_3
trixe ≈ x_1 *is behind* x_2 *as viewed from* x_3
sanli ≈ x_1 *stands on* x_2
zutse ≈ x_1 *sits on* x_2
vreta ≈ x_1 *lies on* x_2
le dertu ≈ *the ground, the dirt*
le ckana ≈ *the bed*
le stizu ≈ *the chair*
le pelji ≈ *the paper*
le penbi ≈ *the pen*

Task

Close the right part of the table. Translate from Lojban:

le mlatu cu zunle le gerku	*The cat is to the left of the dog.*
ko cadzu le crane be mi	*Walk in front of me.*
le prenu cu sanli le trixe be le dinju	*The person stands behind the house.*

Translate to Lojban:

The dog is to the right of me.	**le gerku cu pritu mi**
Sit in front of the house.	**ko zutse le crane be le dinju**

Practice: position

nabmi ≈ *... is a problem*
ma'a ≈ *we (including you)*
nitcu ≈ *... needs ... (something)*
le fonxa ≈ *the phone*
mrilu ≈ *... mails ... (something) to ... (recipient)*
le srana ≈ *something related to ... (something)*
vofli ≈ *... flies*
te benji ≈ *... receives ... (something)*
se mrilu ≈ *the mail, the email*
curmi ≈ *... allows ... (event)*
pilno ≈ *... uses ... (something)*
bevri ≈ *... carries ... (something)*
cpacu ≈ *... gets ... (something)*
le purdi ≈ *the garden*
le bartu ≈ *the outside*
le vorme ≈ *the door*
carna ≈ *... turns*
muvdu ≈ *... moves*
cpana ≈ *... is on top of ... (surface)*
le pelji ≈ *the paper*
le dacti ≈ *the thing, the things, the object, the objects*
punji ≈ *... puts ... (something) on ... (surface)*
vi'o ≈ *interjection: will do, roger*

ma nabmi	*What's the problem?*
ma'a nitcu tu'a le fonxa pe la .alis.	*We need Alice's phone.*
.i la .alis. ca zvati ma	*Where is Alice?*
la .alis. ca na ku zvati le bu'u tcadu **.i mi pu mrilu le srana be le fonxa fi la .alis.** **.i ri ca ca'o vofli la .paris.** **.i ku'i mi pu zi te benji le se mrilu be la .alis.** **.i ri curmi le nu mi'a pilno le fonxa** **.i .e'o do bevri ri mi**	Alice is now not in the city. I mailed about the phone to her. Alice is now flying to Paris. But I just received a mail from her. She allows us to use the phone. Please, bring it to me.
.i bu'u ma mi ka'e cpacu le fonxa	Where can I get the phone?
le purdi .i .e'o do klama le bartu	In the garden. Please, go outside.
mi ca zvati ne'a le vorme .i ei mi ca klama ma	I am near the door. Now where should I go?
ko klama le zunle be le tricu .i ba ku do viska le pa jubme	Go to the left of the tree. Then you will see a table.
mi zgana no jubme	I notice no tables.
ko carna gi'e muvdu le pritu .i le jubme cu crane le cmalu dinju .i le fonxa cu cpana le jubme .i ji'a ko jgari le penbi .e le pelji .i le za'u dacti cu cpana si'a le jubme .i ba ku ko bevri le ci dacti le zdani gi'e punji fi le sledi'u pe mi	Turn and move to the right. The table is in front of a small building. The phone is on top of the table. Also, take a pencil and a paper. They are similarly on top of the table. Then bring the three things home and put them to my room.
vi'o	Will do.

Practice: vehicles

jo'u ≈ *conjunction: and (non-logical connective)*
litru ≈ *… travels*
le rirxe ≈ *the river*
le bloti ≈ *the boat*
le vinji ≈ *the aircraft, the airplane*
le tcana ≈ *the station*
le trene ≈ *the train*
le cacra ≈ *the hour*
le carce ≈ *the wagon, the cart*

mi jo'u le pendo be mi pu ca'o litru le barda rirxe bu'u le bloti	*I and my friends were traveling on a big river in a boat.*
.i ba bo mi'a klama le vinji tcana	*Then we went to an airport.*
.i xu do se marce le karce	*Did you take a car?*
.i na ku se marce **.i mi'a pu klama fu le trene** **.i ze'a le cacra mi'a zvati bu'u le carce**	*No.* *We went by train.* *For one hour we were in a wagon.*

marce ≈ *x_1 is a vehicle carrying x_2*
se marce ≈ *x_1 is a passenger of x_2*

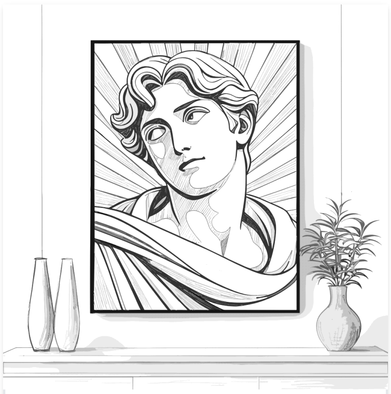
karce ≈ *x_1 is a car carrying x_2*
bloti ≈ *x_1 is a boat carrying x_2*
vinji ≈ *x_1 is an aircraft carrying x_2*
trene ≈ *x_1 is a train of cars x_2*

Enriching vocabulary. New words using tenses

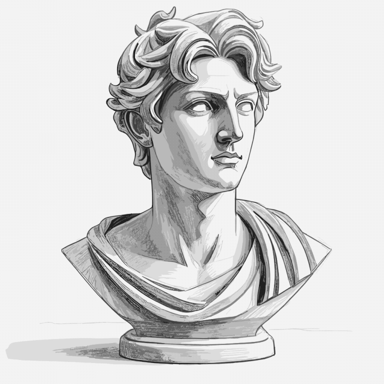
Many single English words correspond to word combinations in Lojban:

pixra ≈ *x_1 is a picture of x_3*
le vi'a pixra ≈ *the picture in 2D*
le vi'u pixra ≈ *the picture in 3D, a sculpture*

le ve'i cmana ≈ *the hill (literally "mountain/hill covering little space")*
le ve'u xamsi ≈ *the ocean (literally "sea/ocean covering large space")*
le ba'o tricu ≈ *stump of a tree (literally "the no longer tree")*



vi'a pixra
2D picture, 2D drawing.



vi'u pixra
3D picture, sculpture.

Lesson 7. Letters, referring to relations, dates

Names of letters in Lojban

Each letter has a name in Lojban.

The following table represents the basic Lojban alphabet and how to pronounce letters (below each letter):

'	**a**	b	c	d	**e**
.y'y.	**.a bu**	**by.**	**cy.**	**dy.**	**.ebu**
f	g	**i**	j	k	l
fy.	**gy.**	**.i bu**	**jy.**	**ky.**	**ly.**
m	n	**o**	p	r	s
my.	**ny.**	**.o bu**	**py.**	**ry.**	**sy.**
t	**u**	v	x	**y**	z
ty.	**.u bu**	**vy.**	**xy.**	**.y bu**	**zy.**

As you can see:

- to get the name for a vowel, we add the word **bu**.
- to get the name for a consonant, we add **y.** to the consonant.
- the word for ' (apostrophe) is **.y'y**.

We can spell words using these names. For example, CNN will be **cy. ny. ny.**

Task

Close the right part of the table. Translate the sentences on the left from Lojban.

.i mi djica le nu do citka le plise pe gy.ly.cy.	*I want you to eat the GLC's apples.*
ty.ny. melbi	*TN is beautiful.*
mi viska my.py.	*I see MP.*

Close the right part of the table. Translate the sentences on the left to Lojban.

ABC is beautiful.	**.abu by. cy. melbi**
I like the musician DP.	**mi nelci dy.py.**

Task

Write shorter variants of the text using letter names to refer to the previous arguments:

la .alis. cu tavla la .brian. .i la .alis. prami la .brian.	**la .alis. cu tavla la .brian. .i .abu prami by.**
la .doris. cu citka le plise .i le plise cu kukte la .doris.	**la .doris. cu citka le plise .i py. kukte dy.**

Letters instead of '*he*' and '*she*'

A string of one or more letter names can function as a pronoun, providing an alternative method for referring to previously mentioned arguments in speech.

> **la .alis. pu klama le nurma .i le nurma cu melbi la .alis.**
> **la .alis. pu klama le nurma .i ri melbi la .alis.**
> **la .alis. pu klama le nurma .i ny. melbi la .alis.**
> **la .alis. pu klama le nurma .i ny. melbi .a bu**
> *Alice went to the country. The rural area is beautiful to Alice.*
> *Alice went to the country. It is beautiful to her.*

All the Lojban variants above have the same meaning.

Since the first letter in **.alis.** is **a** (ignoring the dot) and the first letter in **nurma** is **n**, we can use letter words to refer to those arguments correspondingly:

- **.a bu** refers to **la .alis.**
- **ny.** refers to **le nurma**

This method might be more convenient than English *he* or *she*, or even Lojban **ri** or **ra**. It allows us to make speech more concise yet precise, without having to repeat potentially long names or other argument terms repeatedly.

However, it's important to note that there may be situations where we want to refer back to, for example, **le nurma**, but another argument starting with **n** appears in the meantime, making **ny.** unable to refer to the rural area. In such cases, the quickest solution is to repeat the entire argument, i.e., say **le nurma**:

> **bu'u le nurma la .alis. pu penmi la .nik. i ri se zdani bu'u le nurma**
> *In the country, Alice met Nick. He has his home in the country.*

le nurma ≈ *the rural area, the countryside*
penmi ≈ *... meets ... (someone)*
zdani ≈ *... is a home to ...*
se zdani ≈ *... has a home ..., ... lives in ...*

If a name consists of several cmevla, you can use the first letters of them to refer to that name. The same applies to compound relations:

> **la .djan.smit. cu citka le glare stasu .i dy.sy. nelci fy.sy.**
> *John Smith is eating the hot soup. He likes it.*

le stasu ≈ *the soup*
glare ≈ *... is hot*

dy.sy. is a single pronoun. The same applies to **fy.sy.**.

If you need to put several pronouns one after another, separate them with the word **boi**:

> **mi klama la .paris. la .moskov.**
> *I go to Paris from Moscow.*

> **mi klama py. boi my.**
> *I go to P from M.*

The sentence **mi klama py. my.** would mean *I go to PM*, which would mean something different.

> **la .tom.silver. pu zvati .i je'u ty. sy. boi .ui pu sidju mi**
> *Tom Silver was present. And actually, TS (yay!) helped me.*

je'u ≈ *interjection: truly, actually*

If you put an interjection after such letters, separate them with **boi**. Without **boi**, interjections will refer to the last letter.

Different ways of saying '*we*' in Lojban

In Lojban, there are several pronouns close in meaning to *we*:

mi'o ≈ *you and I*
mi'a ≈ *we without you*
ma'a ≈ *you, I, and others*

So, when speaking, you have to be more careful about which meaning of *we* you need.

And finally:

mi ≈ *I or the speakers*

mi can also mean *we*! Lojban makes no distinction between singular and plural by default. So, if several people are speaking together, **mi** (which refers to one or more speakers) is perfectly correct for *we*. In practice, you'll usually find **mi** used like this when one person is presuming to speak (or more often, to write) on behalf of others.

Some examples:

> **mi prami do**
> *I love you.*

> **mi'a ba penmi do**
> *We'll meet you.*

> **ma'a remna**
> *We are all human.*

> **mi djica le nu do cliva**
> *We want you to go away.*

cliva ≈ x_1 *leaves*

Task

Close the right part of the table. Translate the sentences on the left from Lojban.

mi'a klama le zarci	*We (not including you) go to the market.*
ma'a penmi ti	*We all (including you) meet here.*
mi'o gleki	*You and I are happy.*

«**ri**» instead of ‘*he*’ and ‘*she*’

Earlier, we learned about the pronoun **ri**:

> **ri** ≈ *pronoun: refers to the previous argument that just finished (skipping stable pronouns like* ***mi****,* ***do****, words for we)*

> **mi catlu le nanmu .i ri melbi**
> *I look at the man. He is handsome.*

> **melbi** ≈ *x_1 is beautiful / pretty / handsome to someone x_2*

ri refers to the previous completed argument used in text or someone's speech:

> **la .alis. cu sipna bu'u le sledi'u pe la .alis.**
> *Alice sleeps in Alice's room.*
> `Alice sleeps-in the of-Alice room.`

> **la .alis. cu sipna bu'u le sledi'u pe ri**
> *Alice sleeps in her room.*
> `Alice sleeps in the room of [previous argument term].`

> **sledi'u** ≈ *x_1 is a room for purpose x_2 (proposition)*

The **ri** is equivalent to repeating the last argument, which is **la .alis.** here.

One aspect to notice is that **ri** does not repeat **le sledi'u pe ri** (which is also an argument), because **ri** is a part of that argument and therefore that argument is not "previous", not finished yet when **ri** appears. This prevents **ri** from making it recursively refer to itself.

Another example:

> **le du'u le prenu cu melbi cu se djuno ri**
> *That the person is pretty is known to herself.*

The **ri** refers to **le prenu** (and not **le du'u le prenu cu melbi** although both arguments are complete: **le prenu** starts last, after the start of **le du'u le prenu cu melbi**).

Relation inside **sei** forms a parallel text. **ri** skips arguments inside **sei**-relations:

> **mi viska la .lukas. sei la .doris. pu cusku .i ri jibni la .micel.**
> *I see Lucas, — Doris said. He is near Michelle.*

In this example, **ri** cannot refer to **la .doris.** We simply skip the whole **sei la .doris. pu cusku** relation when deciding what **ri** should refer to.

Pronouns that are stable across the dialogue or story are ignored by **ri**. We just repeat them directly:

> **mi lumci mi**
> *I wash myself.*
> `I wash me`

lumci ≈ *x_1 washes x_2*

> **mi prami mi**
> *I love myself.*
> `I love me.`

However:

- the pronouns **ti**, **ta**, **tu** are picked up by **ri** because you might have changed what you are pointing at, so repeating **tu** may not be effective.
- similarly, **ri** itself (or rather, its antecedent) can be repeated by a later **ri**. In fact, a string of **ri** words with no other intervening arguments will always repeat the same argument:

> **la .alis. cu catlu le nanmu .i ri melbi .i ri co'a zgana .a bu**
> *Alice notices a man. He is handsome. He notices Alice.*

zgana ≈ *to observe*
co'a zgana ≈ *to start observing, to notice*

In this example, the second **ri** has the first **ri** as its antecedent, which in turn has **le nanmu** as its antecedent. All three refer to the same thing: the man.

Ultimately, you decide what, where, and when to use in speech: the method with **le** + relation, the method with letter names, or with **ri**.

Task

jundi ≈ *... is attentive*

Close the right part of the table. Translate the sentences on the left from Lojban using "he/she" in appropriate places:

mi tavla le ninmu .i ri jundi	*I talk to the woman. She is attentive.*
la .bob. cu zgana le nanmu .i ri melbi	*Bob observes the man. He is beautiful.*

«**go'i**» for the previous relation

> **la .alis. cu klama le barja .i la .alis. cu viska le nanmu**
> **la .alis. cu klama le barja .i le go'i cu viska le nanmu**
> *Alice comes to the bar. She sees a man.*

le barja ≈ *the bar, the pub*

- 🌼 **le go'i** refers to the first place of the previous relation.
  - ⚙️ **go'i** presents yet another way of referring back to an argument that we need.
- 🌼 **le se go'i** refers to the second place of the previous relation.
- 🌼 **le te go'i** refers to the third place, and so on.

Examples:

> **.i la .alis. cu zgana le nanmu .i ri melbi**
> **.i la .alis. cu zgana le nanmu .i le se go'i cu melbi**
> *Alice watches a man. He is handsome.*

Here, **le se go'i** refers to the second place (x_2) of the preceding relation, which is **le nanmu**.

Another example:

> *Bill saw Nick. He hit him.*

English doesn't bother with precision here — *he* just means *some male person mentioned somewhere near in the text or deduced from context.* Did Bill hit Bob, or did Bob hit Bill? We don't know. In Lojban, we can say:

> **la .bil. pu viska la .nik. .i le se go'i cu darxi le go'i**
> *Bill saw Nick. Nick hit Bill.*

However, in most cases, **ri** or letter words can be used:

> **la .bil. cu viska la .nik. i ri darxi la .bil.**
> **la .bil. cu viska la .nik. i ny. darxi by.**
> *Bill saw Nick. Nick hit Bill.*

go'i itself is a relation word, and it thus has a place structure:

> **mi tatpi .i do ji'a go'i**
> *I'm tired. And you too.*

tatpi ≈ *... is tired*

When we say **do go'i**, we repeat the previous relation but replace its first place with **do**. In other words, **do ji'a go'i** here is the same as saying **do ji'a tatpi**.

Task

Close the right part of the table. Translate the sentences on the left from Lojban.

mi viska le prenu .i le go'i cu melbi	*I see the person. The person is beautiful.*
la .tom. cu tavla le ninmu .i le se go'i cu cisma	*Tom talks to the woman. The woman smiles.*

cisma = x_1 smiles

Time of day

> **— ma tcika ti**
> *What's the time?*

> **— li cacra bu pa pa**
> *Eleven hours*

tcika ≈ *x_1 (hours, minutes, seconds) is the time of event x_2*

In Lojban, times are always the times of something. So we ask what the time is of **ti**, meaning *this event/thing*, or, in other words, *now*.

li, a prefix for numbers, is used for timestamps too.

- **cacra bu** is a prefix signaling that the number of hours follows. 24-hour time is used almost always in Lojban.
- **mentu bu** is a prefix signaling that the number of minutes follows.
- **snidu bu** is a prefix signaling that the number of seconds follows.

> **li cacra bu pa pa mentu bu pa no**
> *11:10 (Ten minutes past eleven)*

> **li cacra bu pa pa mentu bu pa no snidu bu pa ci**
> *11 hours, 10 minutes and 13 seconds.*

> **li cacra bu pa no mentu bu mu no**
> *10:50, ten to eleven*

If we want to give the time of an event, rather than just tell the time, the second place is filled:

> **li cacra bu pa no tcika le nu mi klama**
> *Ten o'clock is the time that I come.*

By using the term **de'i** we can get a more naturally sounding sentence:

> **mi klama de'i li cacra bu pa no**
> *I am coming at 10 o'clock.*

de'i ≈ *at … (time), on … (date)*

And one useful example:

> **ca tcika le nu .ei sipna**
> *It's time to sleep.*

Task

Close the right part of the table. Convert between English time format and Lojban:

li cacra bu pa ci mentu bu mu no	*13:50*
9:35	**li cacra bu so mentu bu ci mu**
mi klama de'i li cacra bu pa pa mentu bu no no	*I come at 11:00*

Dates

> **— ma detri ti**
> *What's the date today?*

> **— li mastu bu ze djedi bu pa**
>
> *It's July, 1.*

detri ≈ *x_1 (year, month, day) is the date/time of event x_2*

Another option:

> **— ma ca detri**
>
> *— What is the date now?*

- **nanca bu** is a prefix signaling that the year follows.
- **masti bu** is a prefix signaling that the month follows.
- **jefydei bu** is a prefix signaling that the day of week follows.
- **djedi bu** is a prefix signaling that the day follows.

Prefixes with numbers after them can be used in any order (let's use digits to show numbers):

> **li djedi bu 2 ca detri**
>
> *It's the second day of the month now.*

> **li masti bu 4 djedi bu 1 ca detri**
>
> *It's April, the first now.*

> **li djedi bu 5 masti bu 7 nanca bu 2005 detri le nu mi jbena**
>
> *The fifth of July (seventh month), year 2005 is when I was born.*

jbena ≈ *x_1 is born*

We can also use **de'i**:

> **mi ba klama de'i li masti bu pano**
>
> *I will come in October.*

Particles in Lojban can be written without spaces in between, like in this **pano**, which is the same as **pa no**.

For days of the week, usually, Monday is the first day:

> **mi gunka de'i li jefydei bu pa**
>
> *I work on Monday.*

> **mi gunka ca ro se detri be li jefydei bu re**
>
> *I work every Tuesday.*

> **xu do pu zvati la .paris. de'i li jefydei bu ci**
> *Were you in Paris on Wednesday?*

Task

Close the right part of the table. Convert between English date format and Lojban:

li masti bu pa djedi bu re ca detri	*It's January 2nd*
March 5th, 2024	**li nanca bu re no re vo masti bu ci djedi bu mu ca detri**

Specifying time intervals

> **mi nanca li re re**
> *I am 22 years old.*

nanca ≈ *x_1 is of duration of x_2 (number) years*

nanca specifies the duration, and to say *two years long*, fill the second place with a number prefixed by **li**.

> **le verba cu masti li re**
> *The child is two months old.*

masti ≈ *x_1 is x_2 months long*

> **le nu carvi cu djedi li ci**
> *It's raining for three days.*

djedi ≈ *x_1 (event) is x_2 (number) full days long*

Task

Close the right part of the table. Translate from Lojban:

le verba cu nanca li ci	*The child is three years old*
mi djica le nu mi masti ti li re	*I want to spend two months here*

New verbs from one scale: ‘*other than*’ — «**na'e**», ‘*anti-*’ — «**to'e**»

> **mi na'e nelci do**
> *I other than like you.*

"Left scalar" particles (to which **na'e** belongs) are placed to the left of constructs they affect, forming a scale:

The scale itself can be specified using the modal tag **ci'u**.

- **je'a** = *indeed (the affirmative position on the scale).* The word **je'a** confirms the meaning of a part of a sentence. Usually, it's just omitted.

> **mi je'a nelci do**
> *I indeed like you.*

- **na'e** = *non- (other than the affirmative position on the scale)*

> **mi na'e nelci do**
> *I other than like you.*

> **le stizu cu na'e xunre be ci'u le ka skari**
> *The chair is of a non-red color.*
> `The chair is other-than red on the scale of having a color`

- **no'e** = *not really (midpoint on the scale).* The word **no'e** gives a part of a sentence a middle meaning.

> **mi no'e nelci do**
> *As for whether I love or hate you, I'm indifferent to you. I neither like nor hate you.*

- **to'e** = *anti-, dis-, mis- etc. (opposite on the scale).* The word **to'e** gives a part of a sentence an opposite meaning. It's similar to the English prefix *anti-*.

> **mi to'e nelci do**
> *I hate you.*
> `I anti-like you`

na'e is more vague than **no'e** and **to'e**; it can mean any of them when you don't care about the exact meaning.

Task

Complete the scale using appropriate scalar particles:

hot	*warm*	*cold*
je'a glare	**no'e glare**	**to'e glare**

glare = x_1 is hot/warm

Complex modal terms: ‘*because*’ — «**ki'u**», ‘*despite*’ — «**to'e ki'u nai**»

Modal terms can be negated in two ways to obtain related meanings.

ki'u ≈ *modal term: because, due to explanation …, which can be explained by the fact that …*

> **ki'u ma do cusku zo co'o**
> *Why do you say goodbye?*

Adding the suffix **nai** changes the meaning:

ki'u nai ≈ *modal term: not because, which cannot be explained by the fact that …?!*

> **mi se nabmi ki'u nai le nu mi laldo ce'e ki'u le nu mi na certu**
> *I'm in trouble not because I'm old but because I'm not an expert.*

nabmi ≈ x_1 *is a problem to* x_2
se nabmi ≈ x_1 *has a problem* x_2
laldo ≈ x_1 *is old …*
certu ≈ x_1 *is an expert, professional in property* x_2

Adding **to'e** sets the negation of the meaning:

to'e ki'u ≈ *because not, which can be explained by the fact that it does not happen that …*

> **mi jinga to'e ki'u le nu mi pu surla**
> *I won because I hadn't rested.*

Combining both **to'e** and **nai** we get:

to'e ki'u nai ≈ *despite the reason …, not because not, which cannot be explained by the fact that it does not happen…,*

> **.i to'e ki'u nai le nu le mamta cu sanga su'o melbi kei le verba na snada lo ka sipna**
> *Despite the mother singing beautifully, the child doesn't succeed in falling asleep.*

Using **se** changes the order of arguments. Otherwise, the meaning is preserved.

se ki'u ≈ *therefore, which explains the fact that …*

> **ra bilma se ki'u le nu ra na pu cusku zo coi do**
> *He is ill, which explains why he didn't say hello to you.*

se ki'u nai ≈ *but it does not follow that …, which does not explain the fact that …*

> **ra bilma se ki'u nai le nu ra klama le drata tcadu**
> *He is ill, which doesn't explain why he is going to another city.*

drata ≈ *… is other than … (something)*
se to'e ki'u ≈ *…, the absence of which explains the fact that …*

> **ra bilma se to'e ki'u le nu ra klama le drata tcadu**
> *He is not ill, and that explains why he is going to another city.*

se to'e ki'u nai ≈ *…, the absence of which does not explain the fact that …*

> **ra bilma se to'e ki'u nai le nu ra penmi le mikce**
> *He is not ill, and that doesn't explain why he is meeting the doctor.*

mikce ≈ *x_1 is a doctor*

Task

jinga ≈ *… wins*
lo laldo ≈ *old things (in age)*

Close the right part of the table. Translate the sentences on the left from Lojban:

mi jinga ki'u le nu mi gunka	*I win because I work*
mi jinga to'e ki'u nai le nu mi pilno lo laldo	*I win despite using old tools*

Lesson 8. Terms and math

‘*Possibly can*’, ‘*have been*’ and ‘*haven't yet been*’

> **le'e cipni ka'e vofli**
> *Birds can fly.*

> **le pendo be mi ca'a xendo prenu**
> *My friend shows himself as a friendly person.*

> **le pendo be mi ka'e litru bu'u ro da**
> *A friend of mine can travel in any place.*

le cipni ka'e vofli
The bird possibly can fly.

> **mi ca'a zvati la .madrid.**
> *I am in Madrid.*

> **mi pu'i zvati la .madrid.**
> *I have been to Madrid.*

> **mi nu'o zvati la .madrid.**
> *I have never been to Madrid.*

ka'e ≈ *term of potential: possibly can*
ca'a ≈ *term of potential: actually is*
pu'i ≈ *term of potential: has already happened*
nu'o ≈ *term of potential: hasn't ever happened*

This series of so-called terms of potential describes possible situations.

Note that **ka'e** means that an event can happen, whereas, for example,

> **le'e cipni cu kakne le ka vofli**
> *Birds are capable of flying.*

describes abilities dependent on actions of participants.

Task

kurji ≈ *to take care of … (someone)*
gasnu ≈ *… (agent) makes … (event) happen*
le nixli ≈ *the girl, the girls*

Close the right part of the table. Translate from Lojban.

mi ka'e kurji le gerku	*I can take care of the dog.*
mi pu'i klama le zarci	*I have been to the store.*
mi nu'o gasnu le nu le nixli cu cisma	*I have never made the girl smile.*

Close the right part of the table. Translate to Lojban.

She is actually working.	**ra ca'a gunka**
I haven't been sick yet.	**mi nu'o bilma**

‘*Plus*’ and ‘*minus*’

> **li mu du li re su'i ci**
> *Five equals two plus three.*

li that we saw earlier is similar to **le** but it starts a mathematical expression (or just a number or a timestamp).

Note that **li re su'i ci** (*2+3*) is considered a single expression and treated as one argument.

du is a relation word and means *… is equal to …*.

- **su'i** means *plus*.
- **vu'u** means *minus*.
- **pi'i** means *times* and is used for multiplication.
- **fe'i** means *divided by* and is used for division.

pi is a decimal separator, so **no pi mu** means *0.5*, and **ci ze pi pa so** means *37.19*.

In some notations, 0.35 can be written as .35, and in Lojban, we can also drop zero by saying **pi mu**.

Here are some other examples:

> **li pare fe'i ci du li vo**
> *12 : 3 = 4.*

> **li re pi'i re du li vo**
> *two times two is four*

> **li pano vu'u mu pi'i re du li no**
> *10 — 5 · 2 = 0.*

Notice that you put **li** only once before the equation and once after it. Thus, *12 : 3* is considered one number. Indeed, *4* is the same as *12 : 3*. They are both numbers.

For asking for a number, we use **ma**:

> **li ci su'i vo du ma**
> *3 + 4 = ?*

> **li ze**
> *7*

Task

Close the right part of the table. Translate from Lojban.

li re pi'i ci du li xa	*2 times 3 equals 6.*
li ze vu'u ci du ma	*7 minus 3 equals what?*
li pano fe'i re du li mu	*10 divided by 2 equals 5.*

Write these math expressions in Lojban:

🌼 3 + 4 = 7 (**li ci su'i vo du li ze**)
🌼 12 - 5 = 7 (**li pare vu'u mu du li ze**)
🌼 (2 × 3) ÷ 2 = 3 (**li re pi'i ci fe'i re du li ci**)

'*first* — «**pa moi**», '*second*' — «**re moi**», '*last*' — «**ro moi**»

Ordinal numbers such as *first*, *second*, and *third* are used to arrange items in order. In Lojban, they are formed by adding a number followed by **moi**:

pa moi ≈ *x_1 is first among x_2 (set)*
re moi ≈ *x_1 is second among x_2 (set)*
ci moi ≈ *x_1 is third among x_2 (set)*

…

ro moi ≈ *x_1 is last among x_2 (set)*

Relations can also be used instead of numbers:

me mi moi ≈ *x_1 is mine*
me do moi ≈ *x_1 is yours*

In this case, we had to convert pronouns to relations using **me**.

> **le prenu cu pa moi le'i se prami be mi**
> *He is my first love.*

> **tu ro moi le'i ratcu pe mi**
> *That is my last rat.*

> **le cerni tarci cu ro moi le'i tarci poi cumki fa le nu viska ke'a pu le nu co'a donri**
> *The morning star is the last star that's visible before the dawning of the day.*

> **tu me mi moi**
> *That's mine.*

> **tu me mi moi le'i stizu**
> **tu me mi moi stizu**
> (using a compound relation for conciseness)

> *That's my place.*

> **.i ti voi stizu cu me mi moi le'i pa ci stizu poi jibni le jubme**
> *This place is mine among the 13 places near the table.*

Cardinal numbers are placed before ordinal numbers in a string and separated by **boi**:

> **le ci boi pa moi be le'i kabri pe le ckafi**
> *the first three cups of coffee*

Without **boi**, it would turn into **ci pa moi** — *thirty-first.*

Task

Close the right part of the table. Translate from Lojban.

do ci moi le'i pendo be mi	*You are my third friend.*
le di'u pa moi le'i se cusku be do	*That was your first statement.*
mi ro moi ba le nu mi gunka	*I am the last one after working.*

Close the right part of the table. Translate to Lojban.

This is my first car.	**ti pa moi le'i karce be mi**
She's the second smartest.	**ra re moi le'i stati**

«**gau**» — make them do it

The term **gau** marks the agent of an event:

> **le canko cu kalri**
> *The window is open.*

> **le canko gau do kalri**
> *You open the window.*
> `The window driven-by you is open`

gau ≈ *modal term: caused by … (agent), driven by … (someone, some object)*
kalri ≈ *x_1 is open*

Thus, verbs like *to open something* and *to move something* can be rephrased as *to make something open* and *to make something move*. Therefore, we don't need to learn extra verbs for every such meaning. Instead, we add the term **gau** all the time.

There is also another method that retains the same order of words as in English:

> **le canko gau ko kalri**
> **ko jai gau kalri fai le canko**
> *Open the window!*

Here, we transform the relation **kalri** — *to be open* into a new relation:

jai gau kalri ≈ *to open something*

The first place of **kalri** can be shown by using a place tag **fai**.

Some more variations:

> **le pa karce cu muvdu**
> *The car moves.*

> **ko jai gau muvdu fai le karce**
> **le karce gau ko muvdu**
> *Move the car! Make the car move!*

> **le karce cu muvdu ti**
> **fa le karce cu muvdu fe ti**
> *The car moves here.*

> **ko jai gau muvdu fai le karce fe ti**
> *Move the car here!*

muvdu — *moves to some place* is transformed into a new relation **jai gau muvdu** — *to move something or someone to some place.*

muvdu ≈ x_1 *moves to* x_2 *from* x_3 *via* x_4
jai gau muvdu fai le karce ≈ x_1 *moves the car to* x_2 *from* x_3 *via* x_4

> **la .alis. cu klama**
> *Alice comes.*

> **la .alis. gau ko klama**
> *Make Alice come!*

Task

le xatra ≈ *the letter (to be mailed)*
le canko ≈ *the window*
kalri ≈ *… is open*

Close the right part of the table. Translate from Lojban.

ko jai gau cadzu fai le mlatu	*Make the cat walk!*
le verba gau mi gleki	*The child makes me happy.*
mi jai gau ciska fai le xatra	*I write the letter.*

Close the right part of the table. Translate to Lojban.

Open the window!	**ko jai gau kalri fai le canko**
The music makes me dance.	**le zgike gau mi dansu**

‘*Why?*’ — «**ri'a**», «**ni'i**», «**mu'i**», «**ki'u**»

> **- ri'a ma carvi**
> *- Why is it raining?*

> **- le nu le dilnu ca klaku**
> *- Because the clouds are crying.*

le dilnu ≈ *the cloud, the clouds*
ri'a ≈ *modal term: because of … (some event)*
ri'a ma ≈ *why?*
klaku ≈ *x_1 cries*

Unlike **gau**, the term **ri'a** expects not an agent, but an event, such as *the clouds are crying*:

> **le dilnu cu klaku ri'a le nu le dargu cu cilmo**
> *The skies are crying, resulting in the wet road.*

le dargu ≈ *the road*

Therefore is the reverse word compared to *because*:

> **le dilnu cu klaku .i se ri'a bo le dargu cu cilmo**
> *The skies are crying. Therefore, the road is wet.*

cilmo ≈ *... is wet*

Another type of *why* is **ni'i**:

> **- ni'i ma nicte**
> **- le nu le solri na ku te gusni**
> *- Why is it night?*
> *- Because the sun is not shining.*

nicte ≈ *... is nighttime*
te gusni ≈ *... shines*

> **le solri na ku te gusni .i se ni'i bo nicte**
> *The sun is not shining. Therefore, it's night.*

ni'i ≈ *modal term: logically because of ...*
se ni'i ≈ *modal term: with the logical consequence that ..., logically therefore*

Here, we can't use **ri'a** as we are talking not about a result but about logical implication. The fact that it is night just logically follows from the sun not shining.

> **mi darxi la .kevin. mu'i le nu ky. lacpu le kerfa be mi**
> *I hit Kevin because he pulled my hair.*

lacpu ≈ *... pulls ... (something)*
le kerfa ≈ *the hair*
mu'i ≈ *term: because (of motive ...)*

In this example, what we have is not two events that are physically connected, like clouds and rain, but three events:

1. Kevin pulls my hair.
2. I decide, as a result of this, to hit Kevin.
3. I hit Kevin.

English omits the second event and says *Sally hit Joey because he pulled her hair.* However, this is not only vague but, some would say, psychologically dangerous. People do not generally react to stimuli automatically, but as a result of motivation, and confusing complex responses with simple physical causation may lead us to believe that we have no control over our emotions or even our actions. Thus, it is often useful to say not just physical reactions (**ri'a**) but emphasize responses which have a cognitive/emotional element (**mu'i**).

> **le ctuca pu plicru la .ben. le jemna ki'u le nu by. pu zabna gunka**
> *The teacher gave Ben the gem as a present because he worked well.*

le ctuca ≈ *the teacher*
le jemna ≈ *the gem*
zabna ≈ *x_1 is cool, nice*
gunka ≈ *x_1 works*
ki'u ≈ *modal term: because (due to explanation ...)*

The difference between motivation and justification is not always clear, but we can say that justification involves some rule or standard, while motivation does not require it. Compare:

> **le ctuca pu plicru la .ben. le jemna ki'u le nu by. pu zabna gunka**
> *The teacher gave Ben the gem as a present, motivated by his nice work.*

This says only that Ben's hard work motivated the teacher to give him the gem, whereas with **ki'u**, we might imply that it is the custom for teachers to give gems as a reward for good work.

Note: Don't get **ki'u** mixed up with **ku'i**, which means *but, however.*

ki'u appeals to more general considerations than **mu'i**, but it still deals with human standards, not logical laws. Only a very naive student would believe that if a student is given a gem, it must logically imply that the student has worked nicely.

In the case of **ni'i ma nicte**, however, the fact that the Sun isn't shining at night logically entails that the Sun isn't shining. Here, we can confidently use **ni'i**.

Task

batci ≈ *... bites ... (something)*

Close the right part of the table. Translate from Lojban.

mi darxi le gerku ri'a le nu gy. batci mi	*I hit the dog because it bit me.*
mi tadni la .lojban. ki'u le nu mi djica le nu mi jimpe	*I study Lojban because I want to understand.*
ni'i ma nicte	*Why is it night (logically)?*

Close the right part of the table. Translate to Lojban.

Why are you happy? (motivation)	**mu'i ma do gleki**
It's raining because there are clouds.	**carvi ri'a le nu le dilnu cu zvati**

‘*So … that*’

The expression *so … that* is expressed in Lojban by splitting the sentence into two:

> **mi tai galtu plipe .i ja'e bo mi farlu**
> *I jumped so high that I fell down.*

ja'e ≈ *modal term: with the result of …*
tai ≈ *modal term: in the manner of …*

Other examples:

> **mi tai zukte**
> *I act this way*

> **mi tai fengu**
> *I am so angry.*

fengu ≈ *x_1 is angry at x_2 (clause) for action x_3 (property of x_2)*

Task

le galtu ≈ *the ceiling, the high thing*
cnixai ≈ *… cries tears*

Close the right part of the table. Translate from Lojban.

mi tai fengu ja'e le nu mi darxi le galtu	*I was so angry that I hit the ceiling.*
le ninmu cu tai gleki ja'e le nu ri cnixai	*The woman was so happy that she cried.*

Close the right part of the table. Translate to Lojban.

He ran so fast that he fell.	**ri tai sutra bajra ja'e le nu ri farlu**
I am so tired that I can't work.	**mi tai tatpi ja'e le nu mi na ka'e gunka**

‘*If … then*’

> **ba ku fau le nu do cizra kei mi prami do**
> *If you are strange then I'll love you.*

cizra ≈ *... is strange*
fau ≈ *modal term: with the event of ..., under circumstances ..., concurrently with ...*

fau is much like **ca** (*when*) or **bu'u** (*at (some place)*).

In many cases, we can replace **fau** with **ca** to get almost the same meaning (sometimes more precise):

> **mi ba prami do ca le nu do cizra**
> *I'll love you when you are strange.*

We can replace **le** with **ro lo** in such terms getting a new meaning:

> **mi ba prami do ca ro lo nu do cizra**
> *I'll love you whenever you are strange.*

Task

Close the right part of the table. Translate from Lojban.

mi ba sipna fau le nu mi surla	*I will sleep if I rest.*
mi klama le barja ca ro lo nu mi taske	*I go to the bar whenever I'm thirsty.*

Close the right part of the table. Translate to Lojban.

If you come, I'll be happy.	**mi ba gleki fau le nu do klama**
I work when I'm at home.	**mi gunka ca le nu mi zvati le zdani**

«**fau**» and «**da'i**». ‘*What if ...*’

> **da'i mi turni**
> *I could be a governor.*

> **da'i nai mi turni**
> *I am a governor.*

- The interjection **da'i** marks the relation in which it is put as describing an imaginary event.
- The opposite interjection **da'i nai** marks the relation as describing an actual, real event.

Constructs with **da'i** are usually translated to English with auxiliary verbs such as *can/could, will/would, may/might, should*, and *must*. Relations marked with **da'i** in English are said to be in the *subjunctive mood*.

Omitting **da'i** or **da'i nai** makes the sentence clear only from context, which is usually quite transparent. That's why **da'i** or **da'i nai** is not obligatory. We use it for clarity when needed.

Relations with **da'i** may include the term with **fau**:

> **da'i mi gleki fau le nu mi ponse le rupnusudu be li pa ki'o ki'o**
> *I would/could be happy if I had one million dollars.*

fau ≈ *with the event of ...*
rupnusudu ≈ *x_1 costs x_2 (number) US dollars*
pa ki'o ki'o ≈ *1 million*

> **mo da'i fau le nu mi cusku lu ie nai li'u**
> *What if I say "no"?*

Here, the event inside **fau** is equally imagined together with **mi gleki**. And here is the reverse example:

> **da'i nai mi gleki fau le nu mi ponse le rupnusudu be li pa ki'o ki'o**
> *Having one million dollars, I am happy.*

In many circumstances, the word **fau** can be safely replaced with just **ca** (*at the same time as ...*):

> **da'i nai mi gleki ca le nu do klama**
> *I'm happy when you come.*

Other prepositions can be used when necessary:

> **da'i mi denpa ze'a le nu do limna**
> *I would wait while you took a swim.*

denpa ≈ *x_1 waits for x_2 (event)...*
ze'a ≈ *through some time, for a while, during ...*
limna ≈ *x_1 swims*

Task

turni ≈ *... governs ... (something)*
ponse ≈ *... owns ... (something)*
darsi ≈ *... dares to do ... (property)*
ricfu ≈ *... is rich*

Close the right part of the table. Translate from Lojban.

da'i mi turni fau le nu mi ponse le rupnusudu be li pa ki'o ki'o	*I would be a governor if I had one million dollars.*
da'i do jinga fau le nu do darsi	*You would win if you dared.*

Close the right part of the table. Translate to Lojban.

What if I were rich?	**mo da'i fau le nu mi ricfu**
I would be happy if I were with you.	**da'i mi gleki fau le nu mi kansa do**

Probabilities

Suppose you come home and hear someone scratching. You can say one of the following sentences:

> **fau su'o da tu mlatu**
> **fau da tu mlatu**
> *This might be/possibly is a cat. It is possible that this is a cat.*
> (You keep several animals at home. So it might be your cat scratching, but you are not sure.)

> **fau ro da tu mlatu**
> *This must be/certainly is the cat.*
> (You have a cat, and such noise can be produced by only one object, that cat.)

> **fau so'e da tu mlatu**
> *This should be/probably is the cat.*
> (If you have a dog, then it can also produce such sounds, but your dog usually doesn't do that, so the cat is more likely.)

> **fau so'u da tu mlatu**
> *It is not probable that this is the cat.*

> **fau no da tu mlatu**
> *This can't be the cat. This mustn't be the cat. It is impossible that this is the cat.*

Notice that we omitted **da'i** for brevity. But if we want to be explicitly clear about the events being imaginary, **da'i** in these examples is to be put inside the **fau** relation:

1. **fau da'i da** denotes that the event in this relation *is possible, may/can possibly happen.*
2. **fau da'i ro da** — the event *would necessarily happen.*
3. **fau da'i so'e da** — the event *is probable, will probably happen, is likely to happen.*
4. **fau da'i so'o da** — the event *is remotely probable, could/might happen.*
5. **fau da'i so'u da** — the event *is not likely, probably doesn't happen.*
6. **fau da'i no da** — the event *is not possible.*

The difference between these is in the number of imaginary situations we take into account. We don't describe those situations; we just mark them as **da** (*something*), letting the context (or our listeners) decide what those situations are.

Task

Close the right part of the table. Translate from Lojban.

fau da'i so'e da do jinga	*You will probably win.*
fau da'i no da mi klama la .paris.	*It's impossible that I go to Paris.*

Close the right part of the table. Translate to Lojban.

It might rain.	**fau da'i da carvi**
It must be John.	**fau da'i ro da ta du la .djon.**

Possibility implied in places of relations

Some relations have **da'i** implied in some of their slots when you don't use **da'i** explicitly:

> **mi pacna le nu do ba pluka sipna**
> *I hope you will have a pleasant sleep.*

pluka ≈ *... is pleasant*
pacna ≈ *x_1 hopes for x_2 (possible event) with likelihood x_3 (number, by default **li so'a** i.e. close to 1)*

> **mi kanpe le nu do klama**
> *I expect you to come.*

> **mi kanpe le nu do ba jinga kei li so'e**
> *You'll probably win.*
> `I expect with a high probability that you will win.`

> **mi kanpe le nu mi cortu fau ro lo nu su'o lo rokci cu farlu le tuple be mi**
> *I know for a fact that if a rock lands on my foot, it will hurt.*

cortu ≈ *... has pain in ... (body part)*
le tuple ≈ *the leg, the foot*
kanpe ≈ *x_1 expects x_2 (possible event) with expected likelihood x_3 (a number from 0 till 1, the default value is **li so'a**, i.e. near 1)*

Unlike **pacna**, the relation **kanpe** doesn't necessarily imply hope or wish. It can describe impartial expectation, subjective evaluation of the probability of a situation.

> **cumki fa le nu do jinga**
> *It is possible that you win.*

> **- xu ba carvi**
> **- cumki**
> *- Will it rain?*
> *- Maybe.*

cumki ≈ *x_1 (possible event) is possible, x_1 may, might occur, x_1 is a maybe.*

> **- xu ba carvi**
> **- lakne**
> *- Will it rain?*
> *- Probably.*

lakne ≈ *x_1 (possible event) is probable, likely*

> **mi djica le nu do jinga**
> *I want you to win.*

> **mi djica le nu mi klama la .paris.**
> *I would rather visit Paris. I want to visit Paris.*

djica ≈ x_1 *wants* x_2 *(possible event)*

> **mi te mukti le ka klama la .paris.**
> *I will visit Paris. I am motivated to visit Paris.*

> **mi te mukti klama la .paris.**
> *I'm visiting Paris intentionally.*

te mukti ≈ x_1 *is motivated to bring about goal* x_2 *(possible event) by motive* x_3 *(event)*

> **mi kakne le ka limna**
> *I am able to swim.*

> **mi pu kakne le ka gunka**
> *I could work. I was able to work.*

kakne ≈ x_1 *can, is able to do* x_2 *(property of* x_1*)*

x_2 describes a possible event.

> **mi nitcu le nu mi sipna**
> *I need to sleep.*

nitcu ≈ x_1 *needs* x_2 *(possible event)*

> **mi bilga le ka gunka**
> *I must work. I am obliged to work.*

bilga ≈ x_1 *must, is obliged to do* x_2 *(property of* x_1*)*

> **mi curmi le nu do citka ti**
> *I allow you to eat this.*

curmi ≈ x_1 *allows/permits* x_2 *(possible event)*

mi tolcru le nu do nerkla
I forbid you to enter.

nerkla ≈ *… enters*
tolcru ≈ *x_1 forbids/prohibits x_2 (possible event)*

xu do stidi le ka sipna kei mi
Do you suggest that I sleep?

stidi ≈ *x_1 inspires x_2 (possible action) in actor x_3*

mi senpi le du'u ra kakne le ka limna
I doubt that he can swim.

senpi ≈ *x_1 doubts that x_2 (proposition) is true*

mi se xanri le nu mi pavyseljirna
I imagine myself being a unicorn. I could be a unicorn.

pavyseljirna ≈ *… is a unicorn*

se xanri
x_1 imagines x_2 (possible event)

xanri
x_1 (possible event) is imagined by x_2

Task

Close the right part of the table. Translate from Lojban.

mi pacna le nu do jinga kei li so'a	*I very much hope you will win.*
mi kakne le ka limna	*I can swim.*
mi bilga le ka gunka	*I must work.*

Close the right part of the table. Translate to Lojban.

I want to sleep.	**mi djica le nu mi sipna**
I allow you to come.	**mi curmi le nu do klama**
I imagine being rich.	**mi se xanri le nu mi ricfu**

Lesson 9. Logical conjunctions

Logical conjunctions in Lojban are based on 4 primitive ones: **.a**, **.e**, **.o**, **.u**. In this lesson, we'll cover them in detail.

Logical conjunctions for arguments

Here are the conjunctions combining two words: *this* and *that*.

🌼 **ti .a ta** = *this and/or that*

> **mi ba vitke le mamta .a le tamne**
> *I'll visit the mother or the cousin.*

Note that **.a** can also be translated as *at least one of the two values*, and thus leaves open the possibility that I will get around to visiting both of them at some point.

🌼 **ti .e ta** = *this and that*

> **mi ralte le pa gerku .e le re mlatu**
> *I've got a dog and two cats.*
> `I keep one dog and two cats.`

🌼 **ti .o ta** = *either this and that, or none*

> **mi ba vitke le mamta .o le tamne**
> *I will visit either both the mother and the cousin, or none of them.*

Note that **.o** can also be translated as *not one of the two values*, and thus denotes that I will get around to visiting both of them at some point or none.

🌼 **ti .u ta** = *this, and perhaps that, this whether or not that*

> **mi ba vitke le mamta .u le tamne**
> *I'll visit the mother whether or not I'll visit the cousin.*

.u just emphasizes that the second value does not affect the truth of the sentence.

Placing **nai** after a conjunction negates what is to the right of it. Placing **na** before a conjunction negates what is to the left of it:

🌼 **ti .e nai ta** = *this and not that*

> **mi nelci la .bob. e nai la .alis.**
> *I like Bob but not Alice.*
> `I like Bob and not Alice`

We can also say **ti .e nai ku'i ta** (*this but not that*) adding a flavor of contrast for the second argument.

🌼 **ti na .e ta** = *not this but that*

> **mi nelci la .alis. na .e la .bob.**
> *I don't like Alice but I do like Bob.*
> `I like Alice not and Bob`

This may sound a bit weird for English speakers (`I like Alice not…`) so you might prefer to swap the arguments and use **.e nai** instead: **mi nelci la .bob. e nai la .alis.** or even **mi nelci la .bob. i mi na ku nelci la .alis.** will mean the same.

🌼 **ti na .e nai ta** = *neither this nor that (none)*

> **mi nelci la .alis. na .e nai la .bob.**
> *I don't like neither Alice nor Bob*

Negating with other primitive conjunctions might not look intuitively usable, you can just learn them from examples:

🌼 **ti .a nai ta** = *this if that, for this the exclusive condition to happen is that*

> **mi ba vitke le mamta .a nai le tamne**
> *I will visit the mother but for that to happen I need to visit the cousin.*

Thus, **ti .a nai ta** means that **ta** is necessary (but may not be the only condition) for **ti** to be applied.

🌼 **ti .o nai ta** = *either this or that*

> **mi ba vitke le mamta .o nai le tamne**
> *I'll visit either the mother or the cousin.*

.o nai can also be translated as *exactly one of the two values.*

If I want to say that I will visit either the mother or the cousin but not both, I need **.o nai** (*either/or*). It's unlike **.a** (*and/or*) where I can visit both of them.

🌼 **ti na .u ta** = doesn't influence *(not this, but perhaps that)*
🌼 **ti na .u nai ta** = doesn't influence *(not this, but perhaps that)*
🌼 **ti se .u ta** = *perhaps this, and that*
🌼 **ti se .u nai ta** = *perhaps this but not that*

These are used for connecting arguments. For connecting parts of compound relations we use similar conjunctions: **ja**, **je**, **jo**, **ju**. So instead of the dot (pause) we use **j** here.

Task

le speni ≈ *the spouse*
le mamta ≈ *the mother*
le tamne ≈ *the cousin*

le speni .e le pendo cu zvati *A spouse and a friend are present.*

Close the right part of the table. Translate from Lojban:

mi nelci la .bob. e nai la .alis.	*I like Bob but not Alice.*
mi nelci le pa gerku .a le re mlatu	*I like a dog and/or two cats.*
mi ba vitke le mamta .o nai le tamne	*I'll visit either the mother or the cousin.*

Translate to Lojban:

I don't like neither the mother nor the cousin.	**mi nelci le mamta na .e nai le tamne**
Romeo loves either Juliet or Dorothy.	**la .rome'os. cu prami la .djuliet. .o nai la .dorotis.**

Logical conjunctions for sentences

This is a more concise way of saying:

> **mi ralte le pa gerku .i je mi ralte le re mlatu**
> *I have a dog, and I have two cats.*

.i je joins two sentences with a logical *and*, showing that both sentences are part of one thought and are true.

Here are examples of other conjunctions for sentences:

> **la .rome'os. cu prami la .djuliet. i je la .djuliet. cu prami la .rome'os.**
> *Romeo loves Juliet, and Juliet loves Romeo.*

This means both statements are true, i.e., Romeo and Juliet love each other.

The same applies to other conjunctions:

> **la .rome'os. cu prami la .djuliet. i ja la .djuliet. cu prami la .rome'os.**
> *Romeo loves Juliet, and/or Juliet loves Romeo.*

This means one of them loves the other, and perhaps both of them do.

> **la .rome'os. cu prami la .djuliet. i jo nai la .djuliet. cu prami la .rome'os.**
> *Either Romeo loves Juliet or Juliet loves Romeo.*

Here, either Romeo loves Juliet (but Juliet doesn't love him), or Juliet loves Romeo (but he doesn't love her).

> **la .rome'os. cu prami la .djuliet. i ja nai la .djuliet. cu prami la .rome'os.**
> *For Romeo to love Juliet, it's necessary that Juliet loves Romeo.*

This means that if Juliet loves Romeo, he definitely loves her, but he may love her anyway (the only impossible outcome is that Juliet loves Romeo but he doesn't love her).

> **la .rome'os. cu prami la .djuliet. i jo la .djuliet. cu prami la .rome'os.**
> *Either Romeo loves Juliet and Juliet loves Romeo, or neither of the two events happens.*

This means that if Juliet loves Romeo, he loves her, and if she doesn't love him, he doesn't love her.

> **la .rome'os. cu prami la .djuliet. i ju la .djuliet. cu prami la .rome'os.**
> *Romeo loves Juliet whether or not Juliet loves Romeo.*

Notice how we Lojbanize the name "Romeo": the combination "eo" is impossible in Lojban, so we used "e'o" and added a consonant at the end of his name.

Note that **da** refers to the same entity when several sentences are connected.

Task

Close the right part of the table. Translate from Lojban:

mi nelci la .bob. i je mi nelci la .alis.	*I like Bob and I like Alice.*
mi nelci la .bob. i ja nai mi nelci la .alis.	*For me to like Bob it's necessary that I like Alice.*

Translate to Lojban:

Either I like Bob or I like Alice.	**mi nelci la .bob. i jo nai mi nelci la .alis.**
I like Bob whether or not I like Alice.	**mi nelci la .bob. i ju mi nelci la .alis.**

Logical conjunctions inside compound relations

> **le melbi xunre fonxa**
> *beautifully red phones*

> **le melbi je xunre fonxa**
> *beautiful and red phones*

Other conjunctions also make sense:

> **mi nelci ro tu voi xajmi ja melbi prenu**
> *I like all persons who are funny or handsome (or both).*

> **mi nelci ro tu voi xajmi jo nai melbi prenu**
> *I like all persons who are either funny or beautiful.*

This might be explained if, for example, I find the qualities of humor and good looks incompatible, i.e., a mixture of the two would be just too much.

> **mi nelci ro tu voi xajmi ju melbi nanmu**
> *I like all persons who are funny (whether or not beautiful).*

And once again, we shouldn't forget the difference between connecting arguments and connecting parts of compound relation constructs:

> **mi ba vitke le pa pendo .e le pa speni**
> *I will visit a friend and a spouse.*

> **mi ba vitke le pa pendo je speni**
> *I will visit a friend-and-spouse.*

The last Lojban sentence means that the friend is also a spouse.

Task

gleki ≈ *… is happy, … has joy*
le patfu ≈ *the father*

Close the right part of the table. Translate from Lojban:

le xunre je gleki mlatu	*red and happy cats*
mi nelci le melbi jo nai xajmi prenu	*I like people who are either beautiful or funny.*

Translate to Lojban:

beautiful and funny person	**le melbi je xajmi prenu**
I'll visit a father who is also a teacher.	**mi ba vitke le patfu je ctuca**

Logical conjunctions for relation tails

> **pu ku mi uantida la .soker. gi'e klama le zdani gi'e citka le badna**
> *I played soccer, went home, ate the banana.*

uantida ≈ *non-official relation: x_1 plays the game x_2, participates in the game x_2*

gi'e connects several relations into one with some terms shared. Look at this: It expands into **pu ku mi kelci la .soker. i je pu ku mi klama le zdani** … which would be lengthier.

With **gi'e**, we keep the head of the relation constant and specify terms after each of the relation construct (**kelci la .soker.**, **klama le zdani** …).

Thus, when using **gi'e**, we have several relations in the tail joined together but having a common head.

gi'e has the same final vowel as in **je** and thus means *and*.

Other conjunctions for joining relation tails:

- **gi'a** for *and/or*
- **gi'o nai** for *either … or*
- **gi'u** for *whether or not* etc.

These conjunctions have the same ending as those in the **.a**, **.o**, **.u** series.

Task

Close the right part of the table. Translate from Lojban:

mi citka le badna gi'e pinxe le djacu	*I eat the banana and drink the water.*
mi klama le zdani gi'a citka	*I go home and/or eat.*
mi nelci le mlatu gi'o nai le gerku	*I like either cats or dogs.*

Translate to Lojban:

zgipli ≈ *… plays music*

I play and dance.	**mi zgipli gi'e dansu**
I eat whether or not I drink.	**mi citka gi'u pinxe**

Terms in sentences with several tails

Note that tenses as terms and tenses attached to the main relation of the relation make a difference when applied to sentences that contain several attached relations:

🌼 A term in the head of the sentence is applied to all its tails:

> **mi ba'o cu citka le badna gi'e pinxe**
> *I no longer eat the banana and no longer drink.*

Here, **ba'o** is applied to **citka le badna gi'e pinxe**.

🌼 A tense word that is a part of the relation is applied to that relation only:

> **mi ba'o citka le badna gi'e pinxe**
> *I no longer eat the banana, but I do drink.*

Here, **ba'o** is applied to the implied **mi citka le badna** relation only but not to the implied **mi pinxe** relation.

Task

Close the right part of the table. Translate from Lojban:

mi pu citka le badna gi'e pinxe le djacu	*I ate the banana and drank the water.*
mi ba'o cu citka gi'e pinxe	*I no longer eat and no longer drink.*

Translate to Lojban:

I no longer eat but I do drink.	**mi ba'o citka gi'e pinxe**
I stopped eating and stopped drinking.	**mi co'u cu citka gi'e pinxe**

Choice questions

Another type of English "or" can be found in questions:

> — **xu do pinxe le tcati .o nai le ckafi?**
> — **pinxe**
> — *Will you drink tea or coffee?*
> — *Yes.*

That's a peculiar, but perfectly reasonable answer: *Yes, I will drink tea or coffee.*

This happens because "or" has several meanings in English:

1. *A or B* can mean *either A, or B but not both*. We use **.o nai** here.
2. *A or B* can mean *A or B or both*. We use **.a** here.
3. *A or B?* can be a question meaning *select from A and B, which of them do you choose?* We use **ji** here.

Thus, in the last case, we use a separate question conjunction **ji**:

> — **do pinxe le tcati ji le ckafi?**
> — *Will you drink tea or coffee?*

Possible answers:

> **le tcati .e le ckafi**
> *Tea and coffee.*

> **le tcati**
> *Tea.*

> **le ckafi**
> *Coffee.*

It is also possible to use conjunctions when replying:

> **.e**
> — *Both* (the first and the second item is chosen)

> **.e nai**
> — *The first one (tea)* (the first but not the second one is chosen)

> **na .e**
> — *The second one (coffee)* (not the first but the second one is chosen)

> **na .e nai**
> — *Neither* (not the first and not the second one is chosen)

You can ask questions in the same way about the other kinds of conjunctions we have looked at. The interrogative conjunction for relation tails is **gi'i**, for compound relations — **je'i**, for sentences — **.i je'i**.

Indirect questions are achieved by using **ji kau**:

Consider the waiter asks a visitor

> **- le'e dembi ji le'e rismi**
> *- The beans or the rice?*

le'e dembi ≈ *the typical beans*
le'e rismi ≈ *the typical rice*

Once the visitor answers, the waiter knows whether the visitor wants to eat lamb or beef:

> **ba le nu le vitke cu spusku kei le bevri cu djuno le du'u le vitke cu djica le nu ri citka le'e dembi ji kau le'e rismi**
> *After the visitor replies, the waiter knows whether the visitor wants to eat the beans or the rice.*

le vitke ≈ *the visitor, the guest*
spusku ≈ *... replies ... (text)*
le bevri ≈ *the carrier, the waiter*

Task

Close the right part of the table. Translate from Lojban:

do pinxe le tcati ji le ckafi	*Will you drink tea or coffee? (which one?)*
le pa melbi ji le re xajmi prenu	*The one beautiful or the two funny people? (which?)*

Translate to Lojban:

Do you love Romeo or Bob? (which one?)	**do prami la .rome'os. ji la .bob.**
Bob or Alice? (which one?)	**la .bob. ji la .alis.**

Forethought conjunctions

> **ge do gi mi**
> *both you and I*

> **ge nai do gi mi**
> *Not you but I*

> **ge do gi nai mi**
> *You but not I*

> **go nai do gi mi**
> *Either you or I*

The forethought conjunction **ge** means *and*, but it's placed before the first argument term, with **gi** separating the two arguments. This series is parallel to other conjunctions: **ga**, **ge**, **go**, **gu**, as well as **ga nai**, **ge nai**, **go nai**, etc. The separator **gi** is the same for all of them.

Using these conjunctions is a matter of convenience:

> **mi citka ge nai le badna gi le plise**
> *I eat not the banana but the apple.*

Here, like in English, *not* is stated before the first argument.

ge and words in this series can also be used for connecting relations:

> **ge mi dansu gi mi zgipli le pipno**
> *I both dance and play the piano.*

zgipli ≈ *x_1 plays musical instrument x_2*
le pipno ≈ *piano*

> **.i ga nai pu zi carvi gi ca cilmo**
> *If it has been raining recently, it's wet now.*

cilmo ≈ *… is wet*

Task

Close the right part of the table. Translate from Lojban:

ge do gi mi nelci le mlatu	*Both you and I like the cat.*
ge nai do gi mi prami la .alis.	*Not you but I love Alice.*

Translate to Lojban:

Either you or I drink coffee.	**go nai do gi mi pinxe le ckafi**
Both dance and play the piano.	**ge dansu gi zgipli le pipno**

Lesson 10. Structuring text

«**ju'a**» and assertions

The main relation of a sentence asserts some information unless modified by some interjection:

> **mi viska do**
> *I see you.*
> `I assert that I see you`

> **.au mi viska do**
> *I wish I saw you.*

In the last example I only have a wish but I don't assert that I see you.

Another pair of examples:

> **le prenu cu cizra .i ji'a je la .alis. cu jinvi le du'u go'i**
> *The person is strange. And Alice thinks that too.*

> **la .alis. cu jinvi le du'u le prenu cu cizra**
> *Alice has an opinion that the person is strange.*

Relations that are inside places may not be asserted. In the last example, the man being strange (**le prenu cu cizra**) is not asserted by the speaker; it's only Alice's opinion.

The interjection **ju'a** makes the relation asserted by the speaker. The first sentence can be rephrased as:

> **la .alis. cu jinvi le du'u ju'a le prenu cu cizra**
> *Alice has an opinion that the person is strange, and it is so.*

> **ju'a .au mi viska do**
> *I wish I saw you. But I do see you at the same time.*

English often fails to translate this powerful **ju'a** concisely, so the English translation doesn't follow the word order of the Lojban original.

Here's another example:

> **mi nelci le nu do dansu**
> *I like when you dance.*

> **mi nelci le nu ju'a do dansu**
> *I like that you dance.*

In the second case, the speaker asserts *You dance.*

Task

Close the right part of the table. Translate from Lojban:

mi jinvi le du'u ju'a le prenu cu melbi	I think that the person is beautiful (and they really are).
mi nelci le nu ju'a do nelci mi	I like that you like me (and you really do).

Translate to Lojban:

I know that you are smart (but you really aren't).	mi djuno le du'u do stati .i ku'i na ku go'i

«**pe'a**» for metaphors, «**za'e**» for nonce words, «**ba'e**» for emphasis

> **le ninmu cu tarci pe'a .i va'i ri misno**
> *The woman is a star, metaphorically speaking. In other words, she is famous.*

pe'a ≈ *interjection: marks a construct as metaphorically used.*
tarci ≈ *x_1 is a star*
va'i ≈ *interjection: in other words*
misno ≈ *... is famous*

tarci denotes real stars, objects in the sky. The interjection **pe'a** transforms it into a metaphorical meaning.

> **.i ba ku mi pu viska le cizra stuzi poi le fagri cu nenri .i mi pu klama za'e le fagrystu**
> *Then, I saw a strange place with a fire inside. I approached the, let's say, "fire-place."*

le stuzi ≈ *the place*
le fagri ≈ *the fire*
nenri ≈ *... is inside ... (something)*
za'e ≈ *left interjection: marks the following construct as used not in its usual meaning*

Left interjections, as their name suggests, are placed before a modified construct (whereas other interjections are placed after it).

The left interjection **za'e** shows that the following construct, **le fagrystu** in this case, is made up or used not in its standard meaning. Thus, there is no need to look it up in the dictionary or ask the speaker specifically about the meaning of this word since the word is used to further describe the story.

> **ba'e la .alis. e nai la .kevin. pu darxi mi**
> *Alice, not Kevin, hit me!*

> **mi djuno le du'u ma kau pu darxi ba'e mi .i ku'i mi na ku djuno le du'u ma kau pu darxi do**
> *I know who hit me. However, I don't know who hit you.*

ba'e ≈ *left interjection: puts an emphasis on the following construct*

To emphasize a word, we would use stress in spoken English, and underlining, italics, or capital letters in written English. In Lojban, we use the left interjection **ba'e**.

Task

Close the right part of the table. Translate from Lojban:

le prenu cu ba'e sutra klama	The person QUICKLY came (emphasis on "quickly").
mi viska le pe'a lunra .i va'i ri ku melbi	I see the metaphorical moon. In other words, it's beautiful.
mi viska za'e le skapi manku	I see the, let's say, "sky-dark" (meaning the night sky).

Paragraphs and separating sentences

ni'o works exactly like **.i** but starts a new paragraph. Paragraphs are usually associated with new topics.

It is normal to use **.i** in speech to separate sentences, but you might want to use **ni'o** especially in written text to structure it.

le nintadni ≈ *the newbie, the beginner*

le ctuca ≈ *the teacher, the master*

le galtu ≈ *the high place*

darno ≈ *… is far from … (something)*

certu ≈ *… is an expert at … (property)*

skicu ≈ *… describes … (something)*

frica ≈ *… differs from … (something)*

le bangu ≈ *the language*

friti ≈ *… offers … (something) to … (recipient)*

le kabri ≈ *the cup*

jinto ≈ *… is a well, … is a spring (water source)*

le mudri ≈ *the wood*

pagbu ≈ *… is a part of … (something)*

le menli ≈ *the mind*

se tadni ≈ *… is studied*

banli ≈ *… is great*

ni'o	
.i le pa nintadni cu klama le ctuca bu'u le galtu bu'u le darno cmana	A newbie visited the master far high in the mountains.
.i sei le nintadni cu cusku doi le ctuca noi certu tavla fo la .lojban. ku'o do skicu .e'o fi mi fe le nu fi ma kau fa la .lojban. cu frica le'e drata bangu	The newbie said: "Master, you speak fluent Lojban. Please, tell me what is the difference between Lojban and other languages."
.i le ctuca cu friti tu'a le kabri be lei jinto djacu le nintadni gi'e ba bo cusku	The master offered him a cup of spring water and then said:
lu .i ca ti ko catlu le djacu gi'e skicu ri li'u	Now look at the water and describe it.
.i ku'i sei le nintadni cu cusku mi mo'u pinxe ri i je mi na ku kakne le ka catlu	The newbie said: "But I drank it up. I can't look at it."
.i ki'u ma do na ku kakne sei le ctuca cu cusku	Why can't you?, the master said.
.i sei le nintadni cu cusku le djacu ca pagbu le xadni be mi	The newbie said: "Now it's a part of my body."
ni'o	
.i su'o da poi prenu zo'u le mudri co'a pagbu le zdani be da	A piece of wood becomes a part of someone's house.
.i su'o de poi prenu zo'u su'o lo bangu poi se tadni cu co'a pagbu le menli be de	A language learnt becomes a part of someone's mind.
.i su'o di zo'u le dirgo be le djacu co'a pagbu da poi zmadu fi le ka banli	A drop of water becomes a part of something greater.

dirgo ≈ *x_1 is a drop of material x_2 …*
zmadu ≈ *… exceeds … (something) in … (property)*

«**to**» … «**toi**» for parenthetical remarks

Comments placed inside parentheses in English text are formed using the word **to** instead of the left parenthesis and **toi** instead of the right parenthesis:

> **ti poi to vi'o nai do mi na ku djica tu'a su'o lo drata toi plise cu fusra**
> *This (no, I don't want another one!) apple is rotten.*

djica ≈ *to desire*
drata ≈ *… is different from …*
plise ≈ *x_1 is an apple*
fusra ≈ *x_1 rots or decays with agent x_2*

Parenthetical remarks can go anywhere interjections can, meaning they can be placed pretty much anywhere in a Lojban sentence. With parentheses, just like with quotes, you need to know where the parenthesis starts and where it ends.

Task

zi'e ≈ *interjection: continuing thought marker*

Close the right part of the table. Translate from Lojban:

mi nelci le mlatu to ku'i mi na ku nelci le gerku toi	I like cats (but I don't like dogs).
mi citka le plise to zi'e noi do plicru mi ke'a toi	I eat the apple (which you gave to me).

Fixing errors in speech

When correcting yourself, it's important to know how to fix your mistakes. You can use two words to delete your previous words:

si ≈ *deletion: deletes the last word only*
sa ≈ *deletion: deletes back until the next cmavo spoken*

They delete words as if those words have never been spoken. However, they do not work inside certain quotes (all quotes except **lu…li'u**), as that would make it impossible to quote these words. Using multiple **si** in a row deletes multiple words.

In English, when you make a mistake while speaking (factual or grammatical), you usually don't bother to correct it, even if you realize you made a mistake. That's because English is fairly redundant (for this very reason!). If we catch ourselves making an error in English, we quickly provide a correction without going into details like how many words should be canceled: context usually helps us. For example:

> *I'm learning the English word, ... er, Lojban word.*

Context and common sense dictate that *Lojban word* is meant to replace *English word*. But what if it was meant to replace *I'm learning the English word*? We wouldn't normally care in natural languages.

However, Lojban allows you to be more precise about which words you are correcting.

si erases the immediately preceding word. If you want to erase two words in a row, you say **si si** after them. In Lojban, the correction above would be:

> **.i mi tadni le glico valsi si si lojbo valsi**
> *I'm learning the English word, ... er, Lojban word.*

glico ≈ *... is English*
lojbo ≈ *... is Lojbanic*
valsi ≈ *x_1 is a word with the meaning x_2 in language x_3*

The problem with **si** is that you have to count words. This can become tedious, and you shouldn't have to keep a transcript of your words when you want to correct yourself.

The other correction word **sa** is more helpful: **sa** takes as its argument the word following it. Then this **sa** deletes words back until it finds the same word or a word of the same class. For example:

> **.i mi tadni le sa .i mi tadni le lojbo valsi**
> *I'm learning the ... er, I'm learning the Lojban word.*
> **.i mi tadni le lojbo valsi**

The argument of **sa** is the word **.i**. So the sentence following **sa** replaces the current sentence up to and including **sa**. Or consider:

> **.i mi mrilu fi do de'i li jefydei bu pa sa de'i li jefydei bu re**
> *I mailed to you on Monday, ... er, on Tuesday.*
> *On Monday I mailed it to you, ... er, actually, it was Tuesday.*
> **.i mi mrilu fi do de'i li jefydei bu re**

The correction is **de'i li jefydei bu re** — *on Tuesday*. So what it replaces is everything from the last relation beginning with **de'i**: **de'i li jefydei bu pa** — *on Monday*.

Dealing with misunderstanding

> **— .i mi pu zi te vecnu le flokati**
> **— .i le flokati ki'a**
> *— I just bought a flokati.*
> *— Flokati, huh?*

le flokati ≈ *the flokati (type of rug)*
ki'a ≈ *interjection inquiry: confusion about something said. Huh? Whaat?? (confusion), pardon?*

When you don't understand what someone has just said — whether because you don't get what they were referring to, you don't know the word, or the grammar confused you — you can repeat the word or relation you didn't get and add **ki'a** as a plaintive request for clarification. This is even better than *Huh?*, because you can point out exactly what made you say *Huh?*

Here is a dialogue:

> **— mi nelci le kalci**
> **— ki'a ?**
> *— I like shit.*
> *— Whaat???*

le kalci ≈ *the feces, the shit*

Note: Since **zo** quotes any word following it — any word — it turns out that **zo ki'a** doesn't mean *zo? Huh?* at all, but *The word **ki'a***. To ask *zo? Huh?*, you'll have to resort to **zo zo ki'a**.

Reverse «**mi**» and «**do**» using «**ra'o**»

> **- mi prami do**
> **- go'i ra'o**
> *- I love you.*
> *- I love you too.*

ra'o ≈ *interjection: updates meaning from the viewpoint of the current speaker*

If someone says **mi prami do** and you reply **go'i ra'o**, that reverses the pronouns **mi** and **do** so that they apply from your point of view. Thus, every pronoun gets re-evaluated.

Compare:

> **- mi prami do**
> **- go'i**
> *- I love you.*
> *- You do.*

A simple **go'i** still makes **mi** refer to the person who used it, and **do** refer to the listener of the person who said it.

Task

What do these responses mean when said by person B?

A: **mi prami do** B: **go'i**	*A: I love you* *B: You do (love me)*
A: **mi prami do** B: **go'i ra'o**	*A: I love you* *B: I love you too*

Lesson 11. Trickier topics

Know your first language too

When trying to express yourself in Lojban, it's important not to make it merely a copy of English.

Consider the phrase:

> *Terry, the tiger, visits the big city.*

It might be tempting to use the relation

vitke ≈ *x_1 (guest) visits x_2 (someone) at x_3*

However, the phrase *visits the big city* implies visiting a place, not someone at that place, which highlights the fact that the English verb *to visit* might have several meanings.

Indeed, for instance, if we consider French, we see separate solutions:

> I would like to visit my friends.
> J'aimerais rendre visite à mes amis.

> I would like to visit this city.
> J'aimerais visiter cette ville.

French uses *rendre visite* when visiting someone and *visiter* when visiting a place.

In Lojban, we translate the meaning, not just words.

Understanding the peculiarities of your own language is also important when trying to express something in Lojban.

The solutions to the example above might be:

> **la .teris. poi tirxu cu klama le barda tcadu**
> *Terry, the tiger, comes to the big city.*

tirxu ≈ *x_1 is a tiger*
le tcadu ≈ *the city*

> **la .teris. poi tirxu cu pa roi klama le barda tcadu**
> *Terry, the tiger, once comes to the big city.*

> **la .teris. poi tirxu cu pa re'u mo'u klama le barda tcadu**
> *Terry, the tiger, for the first time arrives at the big city.*

> **la .teris. poi tirxu cu co'a klama le barda tcadu**
> *Terry, the tiger, departs to the big city.*

Four meanings of ‘*you*’ in English

We've already seen two personal pronouns, **mi** (*I* or *me*) and **do** (*you*). However, *you* in English can have multiple meanings, which are translated to Lojban in specific ways:

🌼 *you* as *the one person I'm talking to*:

> **le pa do**
>
> \>
> *you one*

We know that **le re prenu** means *the two people*. It's also possible to put numbers after **le** and before pronouns.

🌼 *you* as *all of the people I'm talking to*:

> **ro do**
>
> \>
> *each of you*
> ,
> *all of you*
> (or Southern U.S.
> *y'all*
>)

One can also use numbers with **ko**:

> **ro ko klama ti**
>
> \>
> *All of you, get over here.*

🌼 *you* as *a specific number of people I'm talking to*:

> **le re do**
>
> \>
> *you two*

For example, one can start emails to their parents with **coi le re do**.

Notice that **re do** means *two of you* and **re le ci do** means *two of you three.*

- *you* as *the person or people I'm talking to plus some other person or people*:

> **do'o**
>
> >
> *you and someone else*

- *you* as *anyone* (e.g., *Money can't buy you love.*):

It's typically expressed by:

> **ro da**
>
> >
> *all* ***da***

or

> **ro lo prenu**
>
> >
> *all persons*

However, you can often omit it altogether or place **zo'e** in that position.

More about short relative clauses

Short relative clauses with a pronoun following them can be placed immediately after **le**:

> **le gerku pe mi**
> *My dog*

In such cases, **pe** can even be omitted:

> **le gerku pe mi**
> **le mi gerku**
> *My dog*

le mi gerku means exactly the same as **le gerku pe mi**.

Thus, "**le** + argument + relation construct" is equivalent to "**le** + relation construct + **pe** + argument".

A few rules:

- if you want to use an argument converted from a relation (for example, with **le**) or if it's a name, it is advisable to use **pe** and place it after the argument: **le gerku pe la .alis.** (*Alice's dog*).

🌼 omitting **pe** is acceptable only when using pronouns without numbers in front of them: **le do gerku** (*your dog*) but not **le pa do gerku** (= **le pa do cu gerku** = *one of you is a dog*).

It is much safer to use **pe** explicitly and place it after the argument to which it is attached: **le gerku pe la .alis.** and **le gerku pe mi** are the most intuitive constructs.

Quoting text in different languages

zoi is a quotation mark for quoting non-Lojban text. Its syntax is **zoi X. text .X**, where X is a Lojban word (called the delimiting word) which is separated from the quoted text by pauses, and which is not found in the written text or spoken phoneme stream inside that quotation. It is common, but not required, to use the name of some letter, which corresponds to the Lojban name of the language being quoted:

> **zoi gy. John is a man .gy. cu glico jufra**
> *"John is a man" is an English sentence.*

glico ≈ x_1 *is English*

where **gy.** stands for **glico**. Other popular choices of delimiting words are the word *zoi* itself and a Lojban word suggesting the topic of the quotation.

Lojban strictly avoids any confusion between things and the names of things:

> **zo .bob. cmene la .bob.**
> `The-word “Bob” is-the-name-of the-one-named Bob.`

zo .bob. is the word, whereas **la .bob.** is the thing named by the word. The short qualifier words **la'e** and **lu'e** placed before terms convert back and forth between references and their referents:

> **zo .bob. cmene la'e zo .bob.**
> *The-word "Bob" is-the-name-of the-referent-of the-word "Bob".*

> **lu'e la .bob. cmene la .bob.**
> *A-symbol-for Bob is-the-name-of Bob.*

The last two examples mean the same. But this is different:

> **la .bob. cu cmene la .bob.**
> *Bob is the name of Bob.*

and says that Bob is both the name and the thing named, an unlikely situation. People are not names.

la'o serves to mark non-Lojban names, for example, the Linnaean binomial names (such as "Homo sapiens"), which are the internationally standardized names for species of animals and plants.

Internationally known names which can more easily be recognized by spelling rather than pronunciation, such as *Goethe*, can also appear in Lojban text with **la'o**:

> **la'o dy. Goethe .dy. cu me la'o ly. Homo sapiens .ly.**
> *Goethe is a Homo sapiens.*

Using **la'o** for all names rather than adapting them to Lojban, however, can make for a cumbersome text.

Everything expressed in text should also be expressed in speech and vice versa. Therefore, there cannot be any punctuation which is not pronounced. This means that Lojban has a wide range of words to quote other words. All Lojban convert a text into an argument term.

lu … **li'u** quote only text that is grammatically correct. To quote any Lojban text, we use **lo'u** … **le'u** quotes instead.

> **— xu lo'u je le'u lojbo sumsmi**
> **— na ku sumsmi**
> *— Is "je" a term?*
> *— No.*

> **ma xe fanva zoi gy.What's up?.gy. la .lojban.**
> *How to translate "What's up?" to Lojban?*

Internal terms

Using **be**, you can fill in not only slots of relations but also add modal terms:

> **le xatra be de'i li vo cu se mrilu de'i li ze**
> *This letter, dated the 4th, is mailed on the 7th*

xatra ≈ x_1 *is a letter*

A date tagged with **de'i** applies only to the **xatra**. Compare:

> **le xatra de'i li vo cu se mrilu de'i li ze**
> *The letter on the 4th is mailed on the 7th*
> (whatever that can mean)

Without **be**, the term **de'i li vo** would apply to the whole relation, not to **xatra**. What we want to say is that the former date applies just to the letter, and the latter date applies to the mailing of the letter. This means that in **le xatra be de'i li vo** the part **de'i li vo** (*the 4th, as a date*), applies only to the argument **le xatra**, and not to the entire sentence.

Compound relations in detail

The grouping of terms in Lojban grammar is particularly important when it comes to tanru (compound relations). The way relations group together in a tanru determines what that tanru means. For example,

> *the bad music magazine*

has two interpretations in English: a bad magazine about music or a magazine about bad music. In Lojban, its equivalent

> **le xlali zgike karni**

has only the interpretation *a bad-music magazine*, because the first two relations (*xlali zgike — bad music*) group together first. It is important to modify the grouping of relations to ensure the tanru conveys the intended meaning. For that reason, Lojban has a couple of mechanisms in place for making tanru group together properly.

In English, we use brackets to structure the text. Similarly, for tanru, we use **ke** for the left bracket and **ke'e** for the right bracket.

le xlali ke zgike karni means *the bad (music magazine).*

As you can see, we separated **xlali** from the rest of the tanru and made it apply to the whole tanru. There is no need for **ke'e** at the end of the tanru since we already know that it ends here.

> **.i mi pu zi te vecnu le xlali ke zgike karni .i to'e zanru la'o gy.Eurythmics.gy.**
> *I just bought a bad (music magazine). It dissed the Eurythmics.*

xlali ≈ *... is bad*
le karni ≈ *the magazine, the journal*
to'e zanru ≈ *... disapproves ... (something), ... criticizes ... (something)*

That's one way of grouping together components in tanru. The other way is to use **bo** in a new role. When **bo** appears between two components, it means that those components group together more tightly than anything else. So an alternative way of saying *bad (music magazine)* is

le xlali zgike bo karni ≈ *the bad music-magazine*

bo here is similar to the hyphen in the English translation. This means that **zgike bo karni** should count as a unit, to which **xlali** (*bad*) applies.

So **bo** makes the connections tighter:

> **la .doris. e la .alis. o nai bo la .bob.**
> *Doris and (either Alice or Bob)*

ke can also be used with connectives (though not with sentences; they have their own kind of bracket, **tu'e ... tu'u**). So we could also say

> **la .doris. e ke la .alis. o nai la .bob.**

Remember that the right bracket **ke'e** can often be left out without changing the meaning (as in this case).

Forethought conjunctions are also frequently used because they can eliminate the need for right brackets:

> **ge la .doris. gi go nai la .alis. gi la .bob.**
> *Doris and either Alice or Bob*

and

> **go nai ge la .doris. gi la .alis. gi la .bob.**
> *Either Doris and Alice, or Bob*

There is no need for **bo** or **ke** with forethought conjunctions.

«**co**» for changing the order in compound relations

There is another way of restructuring compound relations.

> **mi fanva se jibri**
> *I'm a professional translator*

fanva ≈ *... translates ... (text) to ... (language)*
jibri ≈ *x_1 is a job of x_2*

If I wanted to say that I'm a professional translator from English to German, I could use **be** and **bei**:

> **mi fanva be le dotco bei le glico be'o se jibri**
> *I'm a professional translator to German from English.*

dotco ≈ *x_1 is German*
glico ≈ *... is English*

The fact that it was a compound relation could quickly be lost in speech due to the complicated structure of the sentence. Here, we can use the word **co**:

co — inverts the compound relation, making the rightmost component modify the leftmost instead of the other way around. Any previous argument term fills the modified, any following argument term fills the modifier.

> **mi se jibri co fanva le dotco le glico**

It is the same relation as the previous Lojban one, but much easier to understand. Notice that any argument before the compound relation fills **se jibri**, while any following it only fills the modifying component: **fanva**.

The strength by which two components are bound together with **co** is very weak — even weaker than normal compound relation grouping without any grouping words. This ensures that, in a co-construct, the leftmost component is always the component being modified, and the rightmost component always modifies, even if any of those parts are compound relations. This makes a **co**-construct easy to understand:

> **ti pelxu plise co kukte**

is read as **ti (pelxu plise) co kukte**, which is the same as **ti kukte pelxu bo plise**. This also means that a **ke ... ke'e** cannot encompass a **co**.

Another example:

> **mi merko limna co mutce certu**
> *I am a much experienced American swimmer.*

merko ≈ x_1 *is American (the USA sense)*
limna ≈ *... swims*
certu ≈ *... is an expert at ... (something)*

Here is the list of different kinds of groupers in compound relations ranked from the tightest to the most loose:

1. **bo** and **ke ... ke'e**
2. logical connectives inside compound relations like **je**
3. not using grouping words
4. **co**

Explicit termination of arguments

The small word **ku** can be used at the end of an argument to explicitly show its right border. **ku** is analogous to the right bracket in math.

> **tu du le badna ku ui**
> **tu du le ui badna**
> *That is the banana (yay!)*

As opposed to:

> **tu du le badna ui**
> *That is the banana (yay that it's a banana and not something else in nature!)*

Avoiding explicit termination

Another style of speaking involves avoiding termination. Here are some common cases:

Elimination of **li'u**, the right quotation mark:

> **lu mi prami do li'u cu se cusku la .alis.**
> **lu mi prami do li'u se cusku la .alis.**
> **lu mi prami do cu se cusku la .alis.**
> *"I love you," said Alice.*

li'u can be omitted here because there cannot be two main relation constructs in one sentence. Hence, we first read the **lu mi prami do** part, and then when we see the **cu**, we realize that we cannot continue this quoted sentence further. We assume that the quotation has ended and the outer sentence continues. Thus, no ambiguity arises.

Elimination of **ku'o**, the right border of relative clauses:

> **le prenu noi mi zgana ke'a ku'o ca tavla le pendo be mi**
> **le prenu noi mi zgana ke'a ca tavla le pendo be mi**
> *The person whom I'm observing is now talking to my friend.*

ku'o can be omitted here when the relative clause that we need (**mi zgana ke'a**) ends in a term, **ke'a** in this case. After the relative clause, something other than a term starts, so the relative clause cannot be continued, and thus we know it successfully ends without any explicit right bracket words.

A similar trick would be to always place **ke'a** at the end of the relative clause:

> **le prenu noi ke'a melbi ku'o ca tavla le pendo be mi**
> **le prenu noi melbi fa ke'a ca tavla le pendo be mi**
> *The person who is pretty is now talking to my friend.*

However, in the following case, termination is necessary:

> **le prenu noi mi zgana ke'a ku'o le pendo be mi ca tavla**
> *The person whom I'm observing is now talking to my friend.*

because after the relative clause **mi zgana ke'a**, we chose to place another term (**le pendo be mi**) not belonging to the current relative clause.

A semi-trick here would be to use **ce'e**:

> **le prenu noi mi ke'a zgana ce'e le pendo be mi ca tavla**
> *The person whom I'm observing is now talking to my friend.*

Here, we end the relative clause with the main relation construct **zgana**. Then we have the conjunction **ce'e** and a term afterward (**le pendo be mi**). Since **ce'e** can join only terms, we know that to the left of **ce'e**, we have a term, which can only be **le prenu noi mi ke'a**. Hence, the meaning is retained, and no ambiguity arises. Note that we still need a separate word, **ce'e**, in such cases, so although we eliminated the bright bracket word, we still had to introduce something else.

Elimination of **kei**, the right border of inner sentences:

> **mi cinmo le ka badri kei le tcini**
> **le ka badri cu se cinmo mi le tcini**
> **mi cinmo fi le tcini fe le ka badri**
> **mi cinmo le ka badri ce'e le tcini**
> *I feel sad regarding the situation.*

le tcini ≈ *the situation*

> **mi stidi lo ka citka su'o da kei do**
> **mi stidi lo ka ce'u su'o da citka ce'e do**
> *I suggest that you eat something.*

stidi ≈ *… suggests … (property) to … (someone)*

As you can see, no trick makes the result shorter than the original with **kei**, so for conciseness, you may wish to use **kei**.

Conversion from sets to masses

> **le prenu cu pa moi le'i pendo be mi ku noi lu'o ke'a ca smaji**
> *He is the first among my friends who keep silence together.*
> *The person is the first among the set of my friends who are now, as a crowd, being silent.*

smaji ≈ *… is silent, … is quiet*

The qualifier word **lu'o** placed before an argument converts it into a mass made of members of that argument. In this case, **ke'a** refers to the set of my friends **le'i pendo be mi** and then **lu'o** converts the members of the set into a mass, the crowd of my friends.

Sets and subsets

Some infinitives may imply more than one **ce'u**:

> **le'i prenu cu simxu le ka prami**
> **le'i prenu cu simxu le ka ce'u prami ce'u**
> *The people love each other.*

simxu ≈ *members of the set x_1 reciprocally do x_2*

The relation **simxu** takes every possible pair from the set specified in place x_1 and asserts the relation specified within x_2.

If we have three people, then it would mean all of them love each other.

> **do ce la .alis. ce mi simxu le ka prami**
> **do ce la .alis. ce mi simxu le ka ce'u prami ce'u**
> *You, Alice, and I all love each other.*

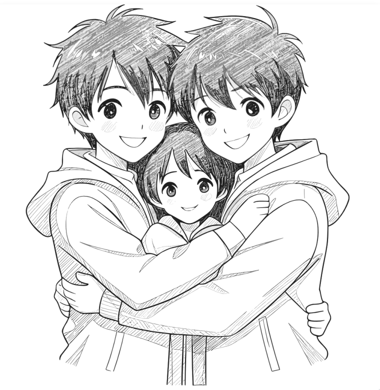
ce ≈ *conjunction: joins several arguments into a set*

The conjunction **ce** merges arguments into a set. Thus, **do ce la .alis. ce mi** might be a more verbose way of **le'i prenu** from the previous example when we want to name the members of the set.

In total, we assert 6 relations:

1. You love Alice.
2. You love me.
3. Alice loves me.
4. Alice loves you.
5. I love Alice.
6. I love you.

Hence, **simxu** is a nice shortcut for expressing mutual relations.



le'i ci prenu cu simxa le ka tunba
The three people are all siblings to each other.

Now consider the example:

> **le'i su'o cmima be le'i prenu cu simxu le ka prami**
> *Some of the people love each other.*

cmima ≈ *x_1 is a member of set x_2*

In this example, we show that a subset of the people in question (a subset of **le'i prenu**) has mutual love.

This allows us to convey even trickier ideas:

> **le'i su'o citno cmima be le'i stati prenu cu simxu le ka prami**
> *Some youngsters from those smart people love each other.*
> `Some young members of the set of smart people love each other.`

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Dictionary

Contains phrases with examples of their possible usage.